



Needs of Montana Public Health Workforce to Participate in Environmental Public Health Tracking

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Executive Summary

Environmental Public Health Tracking is the ongoing collection, integration, analysis and interpretation of data about environmental hazards, exposure to environmental hazards, and human health effects potentially related to exposure to environmental hazards. Montana was recently awarded funding from the Centers for Disease Control and Prevention for "planning and capacity building" for an environmental public health tracking system. In July of 2003, the Department of Public Health and Human Services contracted with the Montana State University College of Nursing to conduct a needs assessment of public health workers, County Commissioners, County Extension agents, and non-governmental organizations in the State of Montana to determine needs of these populations with respect to environmental health tracking. This needs assessment is part of an overall assessment of Montana that includes citizens, county and tribal health departments, and the EPHT Advisory Group stakeholders.

Priority Environmental Exposures and Health Effects

Understanding the primary environmental concerns of those workers who strive to improve public health is an important step in the process of planning a comprehensive tracking network. Table 1 summarizes the primary environmental exposure and health effect concerns from all surveyed groups.

Table 1. Summary of Primary Environmental Exposures and Health Effects Identified by All Surveyed Groups

	Primary Environmental Exposures		Primary Health Effects	
	1 st	2 nd	1 st	2 nd
Public Health Nurses (n=161)	Tobacco smoke in homes with children	Drinking water contamination	Cancer (e.g., breast, testicular, leukemia, brain)	Disease outbreaks attributed to food or water contamination
Sanitarians (n=91)	Toxic contaminants in foods	Drinking water contamination	Disease outbreaks attributed to food or water contamination	Cancer (e.g., breast, testicular, leukemia, brain)
Health Officers (n=33)	Tobacco smoke in homes with children	Drinking water contamination	Disease outbreaks attributed to food or water contamination	Cardiovascular disease
County Commissioners (n=131)	Drinking water contamination	Tobacco smoke in homes with children	Cancer (e.g., breast, testicular, leukemia, brain)	Disease outbreaks attributed to food or water contamination
Extension Officers (n=76)	Residences built in floodplains	Toxic contaminants in foods	Cardiovascular disease	Cancer (e.g., breast, testicular, leukemia, brain)
Non-Governmental Organizations (n=65)	Drinking water contamination	Hazardous and solid wastes	Disease outbreaks attributed to food or water contamination	Cancer (e.g., breast, testicular, leukemia, brain)
Combined Public Health Workers (n=284)*	Tobacco smoke in homes with children	Drinking water contamination	Disease outbreaks attributed to food or water contamination	Cancer (e.g., breast, testicular, leukemia, brain)
Public Health Workers on American Indian Reservations (n=43)**	Tobacco smoke in homes with children	Drinking water contamination	Disease outbreaks attributed to food or water contamination	Diabetes

*Data from Public Health Nurses, Sanitarians, and Health Officers

**Data from Public Health Nurses, Sanitarians, and Health Officers who work on American Indian Reservations

Tobacco smoke in homes with children and drinking water contamination are clearly serious concerns among those who have a stake in public health in Montana. At least one of those exposures was either the first or second highest rated concern from five out of the six groups surveyed. When data from workers who serve American Indian reservations was combined, tobacco smoke and drinking water were again the two most primary concerns. Not surprisingly, disease outbreaks attributed to food or water contamination was of great concern to all groups surveyed, with each group rating these types of outbreaks as either the first or second primary health effects. Cancer was mentioned by five out of six of the groups and Public health workers on American Indian Reservations show significant concern for diabetes.

Knowledge and use of environmental exposure/hazard databases

Montana public health stakeholder populations of interest for the knowledge and use of environmental exposures/hazard databases included nurses, sanitarians, and health officers. Public health nurses primarily used (and stated easy access) databases that address possible health outcomes such as the MT Fetal, Infant, and Child Mortality database (63% use) and Vital Statistics-Birth (58% use). Few nurses commonly used (92-95% non-use) databases that provide information on possible environmental exposures such as the National Toxics Inventory (EPA) or the Superfund Information Systems (CERCLIS, RODS, SPIL, etc.). Montana health officers responded similarly and listed their most commonly used sources of data among databases that focus on health outcomes. Also, like nurses, few health officers commonly used sources of data that reflect the quality of the environment or possible environmental exposures (e.g., 88% stated that they had never used the Superfund Information Systems). Contrasting nurses and health officers, Sanitarians more often used sources of data that reflect environmental exposures. For example, 60% of Montana sanitarians stated that they had used the MT DEQ Environet system and 50% had used the Safe Drinking Water Information System. Also, contrasting nurses and health officers, sanitarians less frequently used data sources that reflect possible health effects such as Vital Statistics for Birth and Death (>90% state non-use for both).

Citizen and local provider utilization of county health resources for addressing environmental health concerns

Survey results were clear that a variety of Montanans use public health workers as resources to address environmental concerns. Public health nurses are least often used as sources of information or assistance with environmental health issues but when used they generally are asked for basic information on environmental health or health effects of environmental exposures. Community members generally make the request and very few requests come from media, advocacy groups, or policy makers. Health officers appear to be asked for assistance with environmental concerns to a greater degree than nurses and

from more diverse sources. While 78% of health officers stated that they received requests from members of the community, 50% stated that they also received requests from policy makers and 44% from healthcare workers inside of their own organizations. Like health officers, sanitarians are frequently asked for information or assistance with environmental issues. Over 72% of sanitarians that responded said that they are 'often' asked for basic information on environmental health, and all categories (10 possible, see Table 9) of requests received at least 50% of the sample stating that they were either 'sometimes' or 'often' asked for assistance. Like nurses and health officers, sanitarians most often received requests from members of their communities but also received requests from other groups such as policy makers, healthcare workers inside and outside of their organizations, and media or advocacy groups.

Background

In September of 2000, the Environmental Health Tracking Project Team at Johns Hopkins School of Hygiene and Public Health sponsored by the Pew Environmental Health Commission published their report entitled America's Environmental Health Gap: Why the Country Needs a Nationwide Health Tracking Network[1]. This report describes the "environmental health gap" whereby public health systems currently lack basic information that could document links between environmental hazards and chronic disease. The report also suggests that a comprehensive tracking network would advance our ability to:

- Identify populations at risk and respond to outbreaks, clusters and emerging threats;
- Establish the relationship between environmental hazards and disease;
- Guide intervention and prevention strategies, including lifestyle improvements;
- Identify, reduce and prevent harmful environmental risks;
- Improve the public health basis for policymaking;
- Enable the public's right to know about health and the environment;
- Track progress towards achieving a healthier nation and environment.

Based in part on the report by the Environmental Health Tracking Project Team, Congress provided the Centers for Disease Control and Prevention (CDC) with \$17.5 million in fiscal year 2002 to begin developing a nationwide environmental public health tracking network and to build capacity in environmental health within state and local health departments. Subsequently, the Montana Department of Public Health and Human Services (DPHHS) and Department of Environmental Quality (DEQ) submitted an application to the CDC for funding in August 2002 for planning and building capacity for an Environmental Public Health Tracking (EPHT) System. Montana was one of 17 sites awarded funding to participate in building a national Public Health Tracking network in October 2002. Montana has a three-year cooperative agreement with the Centers for Disease Control and Prevention and receives approximately \$510,000 per year for three years for this project.

Methods

Tool Development

Project leadership at the Montana State University College of Nursing (MSU CON) collaborated with EPHT staff and advisory group stakeholders to identify broad areas of interest for the needs assessment. These areas of interest (project objectives) include:

- Identify gaps in the utilization of environmental health information at the county level
- Knowledge and use of environmental exposure/hazard databases
- Local priority environmental health conditions, exposures, and hazards
- Perceptions of data availability, timeliness, and comprehensiveness
- Ideas/suggestions on enhancing state, county, tribal, and Indian Health Service partnerships
- Citizen and local provider utilization of county health resources for addressing environmental health concerns

Interviews with contacts from each of the populations targeted for the needs assessment provided insights into specific areas of difference between the populations and their involvement with environmental health issues. Project leadership also collaborated with the California Environmental Health Tracking Program and parallel efforts in assessing the needs of their Public Health workforce. Because many of the objectives of the EPHT program in California aligned with our efforts, we were able to use parts of an existing instrument that had been piloted and revised in California. By gathering much of the same data, we were not only able to shorten our timeline for completion, but we should be able to compare data with California as well.

The survey instruments (paper and electronic versions) for each of the six populations of interest were produced with SNAP Survey Software Version 7.0.

Survey Implementation

Instruments for each of the six populations were administered in a multi-mode format where subjects were contacted via electronic mail or standard mail (based on the availability of valid contact information) to participate in either an on-line or paper/pencil version of the survey. Assurances were given that data would not be linked with identifiers and that all reports of data would be done in aggregate.

The sequence and number of contacts included:

An initial invitation letter (or email) explaining the purpose of the project and informing the subject that they would be receiving a survey within one week;
An initial survey mailing that included an invitation letter, the instrument, and a postage-paid return envelope for those whom we did have valid email addresses,

or an email invitation that included a link for them to follow if they wished to complete the survey on-line.

A reminder postcard (or email) two weeks after the survey mailing;

A second survey mailing that did not include the electronic option.

Any subject who did not complete a version of the survey or contact the survey administrator to be taken off our mailing list received a paper copy of the instrument as a last contact. Both formats of the survey and invitation letters were identical in content.

Special consideration was given to personalizing each contact to the extent possible to ensure that adequate response was obtained. All paper-based contacts with subjects were hand-signed, included the subjects own name, title, and position, and stamps were used instead of metered mailing. Electronic correspondence included the subjects name, title, and position as well as a scanned signature.

While consideration was given to keeping the survey as brief as possible, the number of items on each of the six surveys ranged from 78 to 130. Most of the items however were in matrix form so that the number of actual questions on each survey ranged from 17 to 21. Response rates were favorable (see Table 1) as overall response was 64%, and ranged from 33% to 83%. Despite using identical survey methods for Non-governmental organizations (NGOs), response rates were significantly lower than the other 5 groups of interest. While the reason for this is unknown, many NGOs wrote or called the project office to explain that they felt the survey did not apply to their group. These responses were primarily from groups engaged in work and advocacy that is ecological in nature and generally issues of concern were not primarily interactions of the environment and human health.

Table 2. Survey Response Rates for Needs Assessment of Environmental Public Health Tracking

Population Targeted	Number Valid Invitations Sent	Number Valid Responses	Response Rate (%)
Public Health Nurses	214	161	75
Sanitarians	140	91	65
Health Officers	55	33	60
County Commissioners	180	131	73
County Extension Agents	92	76	83
Non-governmental Organizations	193	63	33
Overall	874	557	64

Data Analysis

Data were analyzed with SNAP Survey Software 7.0 and SPSS version 12.0 for Windows and described as counts, frequencies, and means. Each population of interest was analyzed separately and like variables from each survey were merged for reports on the total participants. Those subjects that indicated that they perform at least some of their duties on American Indian Reservations within the state were also selected for separate reporting.

Results: Montana Public Health Nurses

Table 3. Sample Description of Public Health Nurses (n=161)

Base	161.0
Are you male or female?	
Male	4.0 2.5%
Female	157.0 97.5%
Please check your age group:	
20 - 24	1.0 0.6%
25 - 34	13.0 8.1%
35 - 44	36.0 22.4%
45 - 54	73.0 45.3%
55 - 64	37.0 23.0%
65 - 74	1.0 0.6%
Do you currently work full time, part time or only a few hours a week in Public Health Nursing?	
Full time (30+ hours a week)	124.0 77.0%
Part time (9-29 hours a week)	30.0 18.6%
A few hours (less than 8 hours a week)	2.0 1.2%
What is your ethnic group?	
American Indian / Alaska Native	13.0 8.1%
White / Non Hispanic	147.0 91.3%
What is your highest level of educational preparation in Nursing?	
Licensed Practical Nurse	13.0 8.1%
Associate Degree in Nursing	30.0 18.6%
Baccalaureate Degree in Nursing	93.0 57.8%
Masters Degree in Nursing or Related Field	14.0 8.7%
Do you currently work as a nurse on any American Indian reservations in the State of Montana?	
No	124.0 77.0%
Yes	33.0 20.5%

Montana Public Health Nurses responding to this survey were primarily female (98%), white (91%), and employed full-time (77%). Age and educational preparation were more heterogeneous with more of the sample stating they were between 45-54 years of age (45%) and were baccalaureate prepared (58%).

Nurse Utilization of Environmental Health Information & Perceptions of Data Availability

Public health nurses were asked a number of questions related to use and ease of access for specific data sources such as Vital Statistics for Birth and Death, the Montana Behavioral Risk Factor Surveillance System (BRFSS), the Central Montana Tumor Registry and others. Table 4 lists results for 20 data sources related to either public health nursing practice or environmental health and shows the extent to which public health nurses in Montana use these data sources and their perceptions of ease of access. The most commonly used sources of data among this population include MT Fetal, Infant, and Child Mortality (63.4% use), Vital Statistics-Birth (58.3%), and MT BRFSS (40.2%). Similarly, between 30 to 50% of the respondents listed the same four sources of data as easy to access. Data sources with the lowest use among this sample (92-95% non-use) were clustered strongly among environmental themes and include USGS Water Database, National Toxics Inventory Database (EPA), Superfund Information Systems (CERCLIS, RODS, SPIL, etc.), US EPA Envirofacts Database, PCS Database (Water discharge Permits- EPA), Toxic Release Inventory Explorer (EPA), and Scorecard.org (Environmental Defense).

Table 4. Public Health Nurse Use and Ease of Access for Data Sources

	Base				
		Easy to access	Moderately difficult to access	Difficult to access	I have never used this source of data
Base	3039	366 12.0%	158 5.2%	70 2.3%	2445 80.5%
National Toxics Inventory Database-EPA	153	3 2.0%	4 2.6%	4 2.6%	142 92.8%
U.S. Geological Survey (USGS) Water Database	151	4 2.6%	6 4.0%	2 1.3%	139 92.1%
AIRS Database (air pollutants in Montana)	152	3 2.0%	8 5.3%	3 2.0%	138 90.8%
PCS database (water discharge permits, Environmental Protection Agency)	151	2 1.3%	3 2.0%	3 2.0%	143 94.7%
Montana Birth Outcomes Monitoring System	152	19 12.5%	19 12.5%	8 5.3%	106 69.7%
Vital Statistics- Death	152	70 46.1%	14 9.2%	5 3.3%	63 41.4%
Montana Behavioral Risk Factor Surveillance System (BRFSS)	152	46 30.3%	12 7.9%	3 2.0%	91 59.9%
Montana Central Tumor Registry	152	14 9.2%	12 7.9%	4 2.6%	122 80.3%
HazDat Database-ATSDR	153	9 5.9%	7 4.6%	3 2.0%	134 87.6%
Superfund Information Systems (CERCLIS, RODS, SPIL, etc.)	152	2 1.3%	5 3.3%	4 2.6%	141 92.8%
STELLAR Database (Infant Blood Lead Screening)	149	8 5.4%	5 3.4%	2 1.3%	134 89.9%
Montana Fetal, Infant, and Child Mortality-MDPHHS	153	77 50.3%	15 9.8%	5 3.3%	56 36.6%
Vital Statistics- Birth	153	70 45.8%	14 9.2%	5 3.3%	64 41.8%
Cancer Screening & Tracking System (CaST)- MDPHHS	153	10 6.5%	8 5.2%	3 2.0%	132 86.3%
Montana Department of Environmental Quality Environet Database	151	5 3.3%	5 3.3%	3 2.0%	138 91.4%
Scorecard.org-Environmental Defense	153	3 2.0%	3 2.0%	2 1.3%	145 94.8%
Safe Drinking Water Information System (SDWIS) Database	152	8 5.3%	4 2.6%	2 1.3%	138 90.8%
Toxic Release Inventory Explorer-US EPA	152	1 0.7%	3 2.0%	3 2.0%	145 95.4%
US EPA Envirofacts Database	151	4 2.6%	5 3.3%	2 1.3%	140 92.7%
HazMat Incident Data-US DOT	152	8 5.3%	6 3.9%	4 2.6%	134 88.2%

Table 5. Barriers to Addressing Environmental Health Concerns for Public Health Nurses

	Base	Definitely not a barrier	Uncertain			Major Barrier
Base	1088.0	219.0	226.0	254.0	258.0	131.0
Lack of readily available resources related to environmental health in my work place.	155.0 14.2%	27.0 12.3%	30.0 13.3%	48.0 18.9%	31.0 12.0%	19.0 14.5%
Little or no time to consider environmental health concerns in my clinical practice.	156.0 14.3%	19.0 8.7%	33.0 14.6%	28.0 11.0%	44.0 17.1%	32.0 24.4%
Little support from administration in my work place to address environmental health risks of clients/families.	156.0 14.3%	46.0 21.0%	40.0 17.7%	34.0 13.4%	24.0 9.3%	12.0 9.2%
Lack of recognition by health professionals regarding how the environment can affect human health.	156.0 14.3%	46.0 21.0%	28.0 12.4%	36.0 14.2%	30.0 11.6%	16.0 12.2%
Personal lack of knowledge about how this environment can affect human health and what to do about it.	155.0 14.2%	32.0 14.6%	52.0 23.0%	28.0 11.0%	34.0 13.2%	9.0 6.9%
Clients/families have little interest in understanding how the environment can affect their health.	156.0 14.3%	13.0 5.9%	18.0 8.0%	39.0 15.4%	62.0 24.0%	24.0 18.3%
Few or no resource people with expertise related to environmental health.	154.0 14.2%	36.0 16.4%	25.0 11.1%	41.0 16.1%	33.0 12.8%	19.0 14.5%

Public Health Nurses were also asked about factors in their practice or work environment that work as either barriers or facilitators to addressing environmental health concerns. Items addressing barriers and facilitators were adopted from previous research with environmental health practice of nurses[2]. Most often, nurses in Montana stated that ‘major barriers’ include having little

or no time to consider environmental health concerns in their clinical practice (24%) and that clients or families have little interest in understanding how the environment can effect their health (18%) (Table 5).

Facilitators (Table 6) identified as ‘very helpful’ to nurses addressing environmental health concerns included free or inexpensive continuing education programs offered over distance learning (17%) and having internet and other resources readily available in the workplace (16%). Interestingly, while nurses expressed interest in distance learning about environmental health, almost 28% of the sample indicated that it would definitely not be helpful to have educational programs about environmental health offered through colleges and universities.

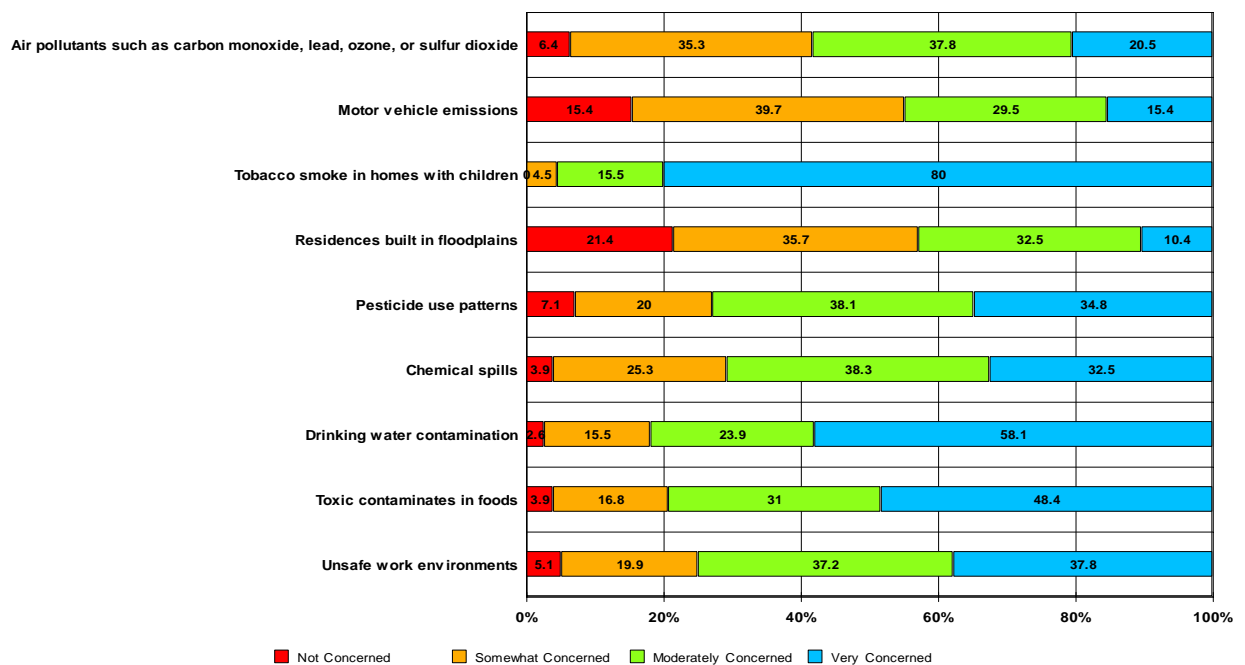
Table 6. Facilitators to Addressing Environmental Health Concerns for Public Health Nurses

	Base	Response by Health Status				
		Definitely not Helpful	Uncertain			Very Helpful
Base	1234.0	36.0	65.0	195.0	340.0	598.0
Internet and other resources readily available in my work place ...	151.0 12.2%	5.0 13.9%	3.0 4.6%	15.0 7.7%	32.0 9.4%	96.0 16.1%
Environmental health educational programs at my work place	155.0 12.6%	4.0 11.1%	3.0 4.6%	18.0 9.2%	48.0 14.1%	82.0 13.7%
A decrease in my overall work load so I have more time to provide comprehensive care	155.0 12.6%	4.0 11.1%	14.0 21.5%	39.0 20.0%	36.0 10.6%	62.0 10.4%
Support from administration to address environmental health issues with clients/families	154.0 12.5%	7.0 19.4%	7.0 10.8%	32.0 16.4%	55.0 16.2%	53.0 8.9%
Educational programs about environmental health offered through local colleges and universities	155.0 12.6%	10.0 27.8%	23.0 35.4%	29.0 14.9%	47.0 13.8%	46.0 7.7%
A staff resource person who is knowledgeable in the area of environmental health	155.0 12.6%	1.0 2.8%	6.0 9.2%	24.0 12.3%	40.0 11.8%	84.0 14.0%
Support from physicians to assess and intervene related to environmental health risks	155.0 12.6%	2.0 5.6%	4.0 6.2%	26.0 13.3%	50.0 14.7%	73.0 12.2%
Free or inexpensive continuing education programs on environmental health via the Internet (or other distance learning option)	154.0 12.5%	3.0 8.3%	5.0 7.7%	12.0 6.2%	32.0 9.4%	102.0 17.1%

Local priority environmental health conditions, exposures, and hazards- Nurse Perceptions

Public Health Nurses in the state of Montana appear overwhelmingly concerned about tobacco smoke in the homes of children with more than 95% stating that they were either 'moderately' or 'very' concerned about this exposure (Figure 1). Other exposures that nurses expressed significant concern about include drinking water contamination (82% 'very' or 'moderately' concerned), and toxic contaminates in foods (79% 'very' or 'moderately' concerned).

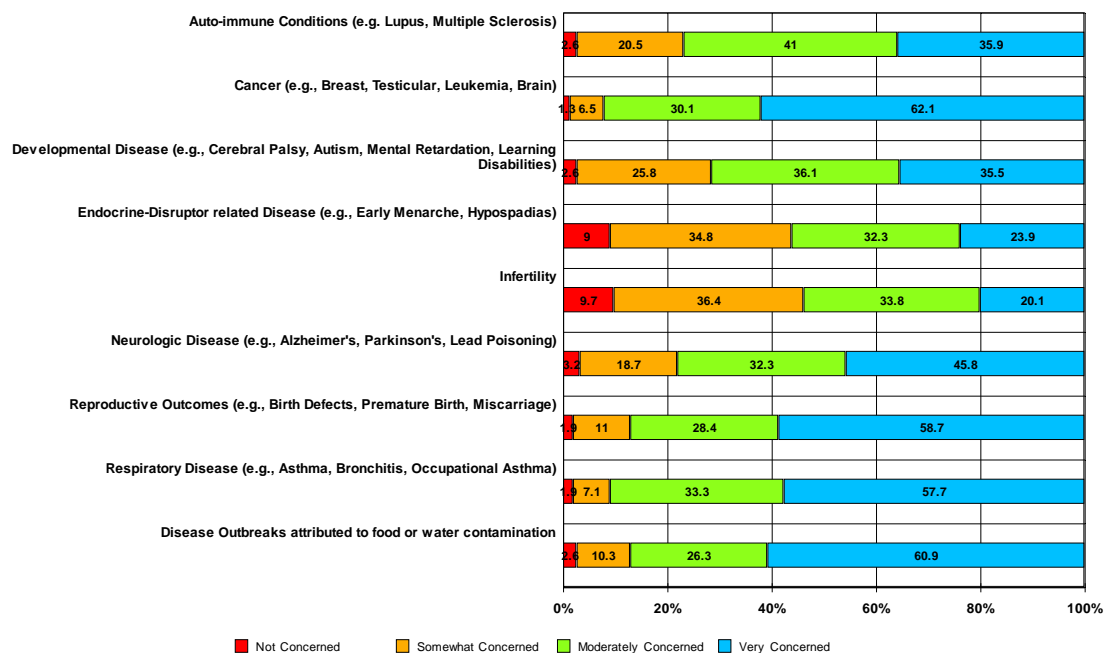
Figure 1. Priority Environmental Health Exposures Identified by Public Health Nurses



Exposures where nurses expressed the least concern ('not' or 'somewhat' concerned) include residences that are built in floodplains (57%), motor vehicle emissions (55%), and air pollutants like carbon monoxide, lead, ozone, and sulfur dioxide (42%).

Broad categories of environmentally related health effects that nurses expressed concern about were less discriminate (Figure 2). No category of health effects received less than 50% of the respondents stating that they were at least moderately concerned though some generalities can be made. For example, concern about reproductive outcomes (e.g., birth defects, premature birth, and miscarriage), respiratory disease (e.g., asthma, bronchitis, and occupational asthma), disease outbreaks associated with food/water contamination, and cancer (e.g., breast, testicular, leukemia, brain) were identified as most concerning to nurses as 58-62% of the sample stated that they were 'very' concerned. Alternatively, least concern ('not' or 'somewhat' concerned) was indicated for endocrine-disruptor related disease (44%) and infertility (46%).

Figure 2. Priority Environmentally Related Health Effects Identified by Public Health Nurses



Citizen and local provider utilization of county nurses to address environmental health concerns

To address the extent to which community stakeholders utilize public health nurses to address environmental health issues/questions, we asked nurses to rate how often they are asked for information or assistance related to a variety of potential scenarios (see Table 7). No category of request received more than 9% 'often' response, indicating that overall, nurses are not asked consistently for

either information or assistance with environmental health issues. Nurses are most often ('sometimes' or 'often') requested to provide basic information on environmental health (73%), and data or information on health effects of environmental exposures (58%).

Nurses also indicated that they 'never' or 'rarely' get requests to help with analyzing and interpreting data (86%), finding/locating research studies (82%), or interpreting research studies (87%).

When asked which stakeholders generally request information or assistance with environmental health, 40% of the sample stated that members of the community made the request, 23 % stated that they received requests from other healthcare workers in their organizations, 22% from healthcare workers outside of their organization, and less than 8% stated that they received requests from the media, advocacy groups, or policy makers.

Table 7. Requests for Environmental Health Information or Assistance to Public Health Nurses

	Base				
		Never	Rarely	Sometimes	Often
Base	1581.0	31.4%	34.1%	29.3%	5.2%
Basic information on Environmental Health (e.g. household exposure risks)	160.0	5.0%	21.9%	63.7%	9.4%
Assistance in finding/locating research studies/findings	159.0	35.8%	46.5%	15.7%	1.9%
Assistance in interpreting research studies/results	157.0	47.8%	39.5%	12.7%	-
Data/information on health effects potentially related to hazards (e.g., disease incidence rates, ethnic disparities & trends)	158.0	13.3%	29.1%	48.7%	8.9%
Data/information on environmental hazards and/or exposures (e.g., source, amount, concentration, & geographic distribution of chemicals)	157.0	26.8%	37.6%	30.6%	5.1%
Assistance in collecting community data (primary data)	157.0	28.0%	33.8%	31.8%	6.4%
Assistance in accessing existing data (secondary data)	159.0	37.7%	35.2%	21.4%	5.7%
Assistance in analyzing and interpreting data	158.0	55.1%	31.0%	11.4%	2.5%
Assistance in utilizing environmental hazards/exposures or health effects data to take public health actions (e.g., policy development, advocacy, & risk communication)	158.0	32.3%	32.9%	28.5%	6.3%
Assistance in conducting community-based research, epidemiological studies, or investigations	158.0	32.3%	33.5%	28.5%	5.7%

Results: Montana Sanitarians

Table 8. Sample Description of Sanitarians (n=91)

Base	91
Are you male or female?	
Male	70 76.9%
Female	21 23.1%
Please check your age group:	
20 - 24	39 42.9%
25 - 34	31 34.1%
35 - 44	4 4.4%
45 - 54	11 12.1%
55 - 64	5 5.5%
65 - 74	1 1.1%
What is your ethnic group?	
American Indian / Alaska Native	1 1.1%
Black / Non Hispanic	4 4.4%
Asian / Pacific Islander	2 2.2%
Hispanic	14 15.4%
White / Non Hispanic	68 74.7%
Do you currently work full time, part time or only a few hours a week in your current sanitation position?	
Full time (30+ hours a week)	83 91.2%
Part time (9-29 hours a week)	7 7.7%
A few hours (less than 8 hours a week)	1 1.1%
What is the highest academic qualification you have attained?	
Associate Degree	9 9.9%
Baccalaureate Degree	72 79.1%
Masters Degree	10 11.0%
Do you currently work as a sanitationer on any American Indian reservations in the State of Montana?	
No	82 90.1%
Yes	8 8.8%

Sanitarians responding to this survey were mostly white (75%), male (77%), 20-34 years of age (77%) and employed full-time (91%). The majority of sanitarians held at least a baccalaureate degree (79%) and only 9% performed any of their duties on American Indian Reservations within the state.

Sanitarian Utilization of Environmental Health Information & Perceptions of Data Availability

Sanitarians were asked a number of questions related to use and ease of access for specific data sources such as Vital Statistics for Birth and Death, the Montana Behavioral Risk Factor Surveillance System (BRFSS), and the Central Montana Tumor Registry and others. Table 9 lists results for 20 data sources related to public or environmental health and shows the extent to which sanitarians in Montana use these data sources and their perceptions of ease of access. The most commonly used sources of data among this population include the STELLAR Database (67% use), MT DEQ Environet (60%), Safe Drinking Water Information System (SDWIS) Database (50%), and USGS Water Database (49%). Despite relatively consistent use of these data sources among the sample, 10-21% of the sample stated that the data sources were at least 'moderately difficult to access'. Data sources with moderate use include the PCS database (water discharge permits-EPA) and the HazMat database with 36% and 39% of the sample respectively stating at least some use. All other data sources appear to receive very little use among this sample of sanitarians with 71-97% stating

that they have never used these sources of data.

Table 9. Sanitarian Use and Ease of Access for Data Sources

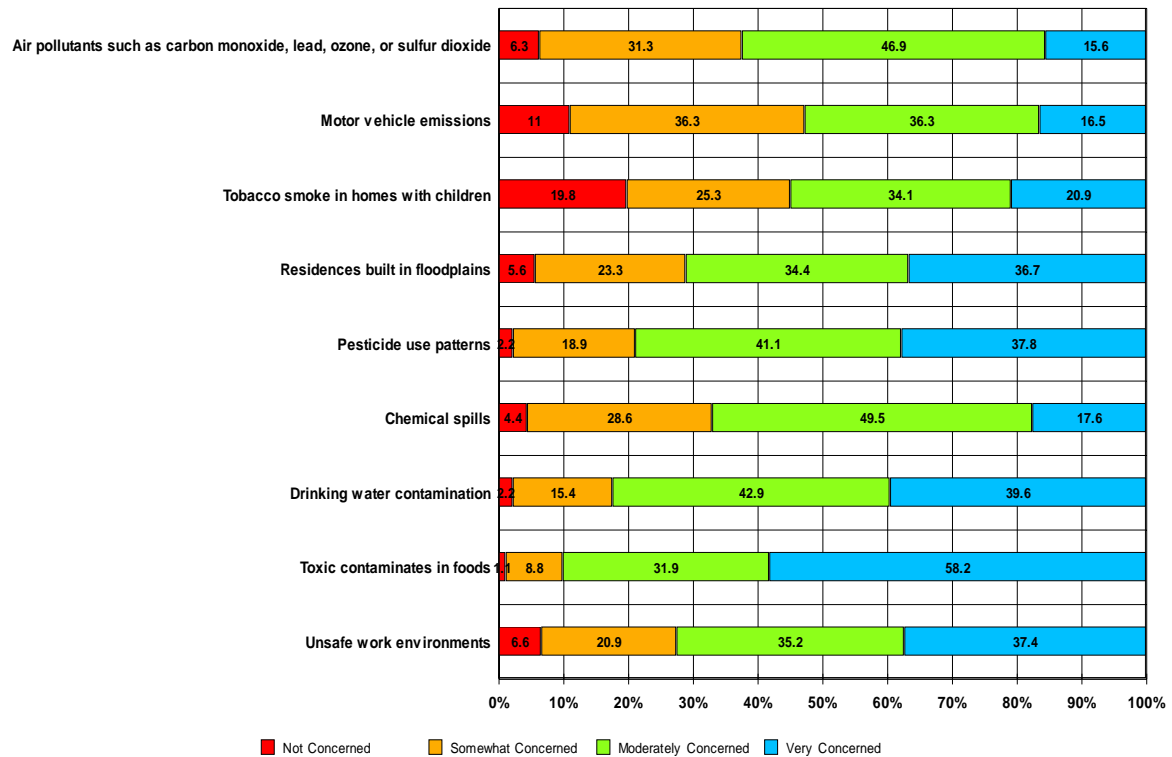
	Base				
		Easy to access	Moderately difficult to access	Difficult to access	I have never used this source of data
Base	1788	235 13.1%	153 8.6%	36 2.0%	1364 76.3%
STELLAR Database (Infant Blood Lead Screening)	91	36 39.6%	19 20.9%	6 6.6%	30 33.0%
Montana Fetal, Infant, and Child Mortality- MDPHHS	90	4 4.4%	1 1.1%	- -	85 94.4%
Vital Statistics- Birth	90	4 4.4%	2 2.2%	1 1.1%	83 92.2%
Vital Statistics- Death	90	5 5.6%	2 2.2%	1 1.1%	82 91.1%
Montana Behavioral Risk Factor Surveillance System (BRFSS)	90	2 2.2%	4 4.4%	1 1.1%	83 92.2%
Montana Central Tumor Registry	90	1 1.1%	3 3.3%	1 1.1%	85 94.4%
Montana Birth Outcomes Monitoring System	90	- -	2 2.2%	2 2.2%	86 95.6%
Cancer Screening & Tracking System (CaST)- MDPHHS	87	- -	3 3.4%	- -	84 96.6%
AIRS Database (air pollutants in Montana)	89	5 5.6%	9 10.1%	1 1.1%	74 83.1%
PCS database (water discharge permits, Environmental Protection Agency)	89	13 14.6%	17 19.1%	2 2.2%	57 64.0%
US EPA Envirofacts Database	89	14 15.7%	10 11.2%	1 1.1%	64 71.9%
U.S. Geological Survey (USGS) Water Database	89	32 36.0%	9 10.1%	3 3.4%	45 50.6%
Montana Department of Environmental Quality Environet Database	90	38 42.2%	14 15.6%	2 2.2%	36 40.0%
Safe Drinking Water Information System (SDWIS) Database	90	26 28.9%	18 20.0%	1 1.1%	45 50.0%
HazDat Database- ATSDR	90	17 18.9%	14 15.6%	4 4.4%	55 61.1%
HazMat Incident Data- US DOT	90	9 10.0%	5 5.6%	2 2.2%	74 82.2%
National Toxics Inventory Database- EPA	88	10 11.4%	5 5.7%	4 4.5%	69 78.4%
Scorecard.org- Environmental Defense	88	6 6.8%	7 8.0%	2 2.3%	73 83.0%
Toxic Release Inventory Explorer- US EPA	89	5 5.6%	3 3.4%	- -	81 91.0%
Superfund Information Systems (CERCLIS, RODS, SPIL, etc.)	89	8 9.0%	6 6.7%	2 2.2%	73 82.0%

Local priority environmental health conditions, exposures, and hazards- Sanitarian Perceptions

Sanitarians in Montana appear most concerned ('very') about toxic contaminants in foods (58%) (Figure 3). Other exposures that sanitarians expressed significant concern about include drinking water contamination (40% very concerned),

unsafe work environments (37%), pesticide use patterns (38%) and residences built in floodplains (37%).

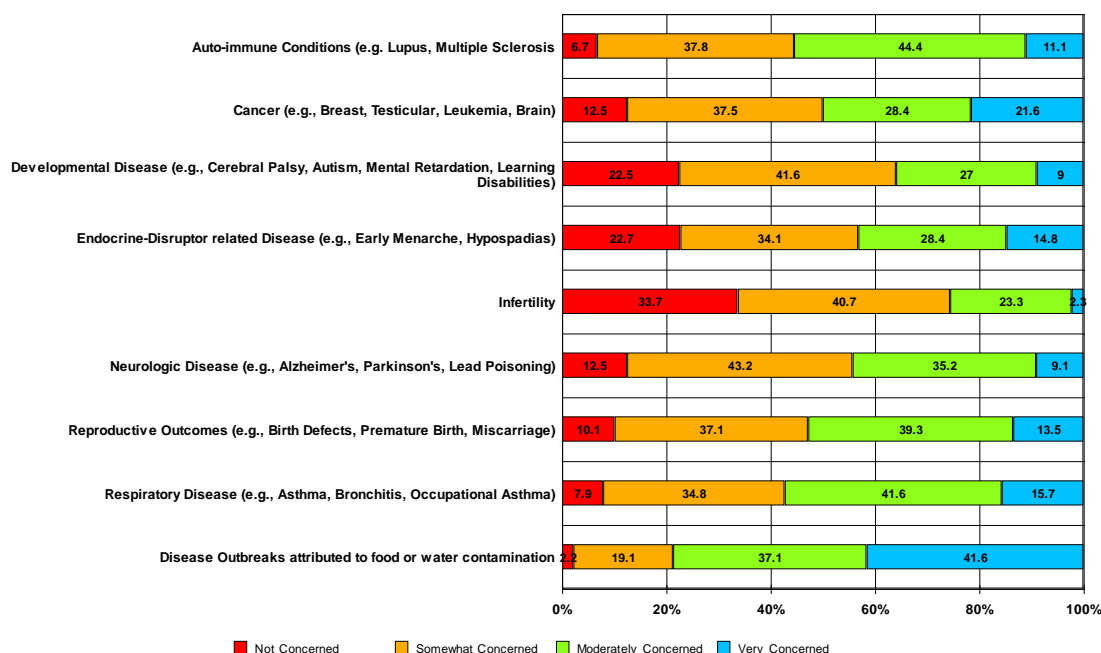
Figure 3. Priority Environmental Health Exposures Identified by Sanitarians



Broad categories of environmentally related health effects that sanitarians expressed concern about are presented in Figure 4. Disease outbreaks attributed to food or water contamination received concerned sanitarians greatest with 42% indicating that they were ‘very concerned’. Modest concern was indicated for cancer, auto-immune conditions, reproductive outcomes, and respiratory disease where each category received at least 50% of the sample indicating that they were either moderately or very concerned.

Sanitarians expressed the least amount (‘not’ or ‘somewhat’) of concern for endocrine-disruptor related disease (57%), developmental disease (64%) and infertility (74%).

Figure 4. Priority Environmentally Related Health Effects Identified by Sanitarians



Citizen and local provider utilization of county sanitarians to address environmental health concerns

To address the extent to which community stakeholders utilize sanitarians to address environmental health issues/questions, we asked sanitarians to rate how often they are asked for information or assistance related to a variety of potential scenarios (see Table 10). Contrasting results for public health nurses, sanitarians appear to be asked consistently for information and assistance with environmental health issues. Over 72% of sanitarians that responded said that they are 'often' asked for basic information on environmental health, and most categories of requests received at least 50% of the sample stating that they were either 'sometimes' or 'often' asked for assistance. The 3 categories that received least requests include collecting community data, accessing existing data, and analyzing/interpreting data.

When asked which stakeholders generally request information or assistance with environmental health, 46% of the sample stated that members of the community made the request, 19% stated that they received requests from other healthcare workers in their organizations, 12% from healthcare workers outside of their organization, 11% from policy makers, and less than 8% stated that they received requests from the media or advocacy groups.

Table 10. Requests for Environmental Health Information or Assistance to Sanitarians

	Base	Never	Rarely	Sometimes	Often
Base	756	8.3%	32.5%	38.4%	20.8%
Basic information on Environmental Health (e.g. household exposure risks)	85	-	1.2%	25.9%	72.9%
Assistance in finding/locating research studies/findings	88	1.1%	23.9%	46.6%	28.4%
Assistance in interpreting research studies/results	73	12.3%	32.9%	43.8%	11.0%
Data/information on health effects potentially related to hazards (e.g., disease incidence rates, ethnic disparities & trends)	72	9.7%	40.3%	37.5%	12.5%
Data/information on environmental hazards and/or exposures (e.g., source, amount, concentration, & geographic distribution of chemicals)	73	11.0%	27.4%	45.2%	16.4%
Assistance in collecting community data (primary data)	73	8.2%	45.2%	32.9%	13.7%
Assistance in accessing existing data (secondary data)	73	8.2%	53.4%	32.9%	5.5%
Assistance in analyzing and interpreting data	73	13.7%	45.2%	27.4%	13.7%
Assistance in utilizing environmental hazards/exposures or health effects data to take public health actions (e.g., policy development, advocacy, & risk communication)	73	12.3%	30.1%	46.6%	11.0%
Assistance in conducting community-based research, epidemiological studies, or investigations	73	9.6%	32.9%	45.2%	12.3%

Results: Montana Health Officers

Table 11. Sample Description of Montana Health Officers (n=33)

Base	32 100.0%
Are you male or female?	
Male	21 65.6%
Female	11 34.4%
Please check your age group:	
25 - 34	2 6.3%
35 - 44	6 18.8%
45 - 54	14 43.8%
55 - 64	7 21.9%
65 - 74	2 6.3%
75 or over	1 3.1%
Do you currently work full time, part time or only a few hours a week in your role as a Health Officer?	
Full time (30+ hours a week)	9 28.1%
Part time (9-29 hours a week)	4 12.5%
A few hours (less than 8 hours a week)	19 59.4%
What is your ethnic group?	
Black / Non Hispanic	1 3.1%
Hispanic	1 3.1%
White / Non Hispanic	30 93.8%
What is your highest level of educational preparation?	
Associates Degree	1 3.1%
Bachelors Degree	3 9.4%
Masters Degree	9 28.1%
Doctoral Degree (Ph.D, M.D., J.D, or other)	19 59.4%
What is your professional preparation?	
Nursing	4 12.5%
Public Health	1 3.1%
Medicine (M.D., D.O)	21 65.6%
Do you currently work as a Public Health Official on any American Indian reservations in the State of Montana?	
No	30 93.8%
Yes	2 6.3%

Montana Health Officers responding to the survey included 21 males (66%) and 11 females (34%) that were primarily between the ages of 35-64 (85%) and white (94%). The majority of respondents were employed as health officers only part-time (59%) and had masters (28%) or doctoral degrees (59%). Out of the 33 health officers who responded, 21 (66%) had educational preparation in medicine, and only 2 (6%) stated that they performed some of their duties on American Indian Reservations within Montana.

Health Officer Utilization of Environmental Health Information & Perceptions of Data Availability

Health officers were asked a number of questions related to use and ease of access for specific data sources such as Vital Statistics for Birth and Death, the Montana Behavioral Risk Factor Surveillance System (BRFSS), and the Central Montana Tumor Registry and others. Table 12 lists results for 20 data sources related to public or environmental health and shows the extent to which health officers in Montana use these data sources and their perceptions of ease of access. The most commonly used sources of data among this sample include the Montana Fetal, Infant, and Child Mortality database (53%), Vital Statistics-Birth (67%), and Vital Statistics-Death (64%). A moderated number of respondents stated that they used the MT BRFSS (44%) and the MT Central Tumor Registry (49%). The balance of the data sources were used by less than 25% of the health officers with the least use occurring for Toxic Release Inventory Explorer- US EPA (6% use), Scorecard.org- Environmental Defense (6%) and the PCS database (water discharge permits- US EPA)(6%).

For the three most used databases (Montana Fetal, Infant, and Child Mortality database; Vital Statistics-Birth; and Vital Statistics-Death), about 40% of the sample stated that they were easy to access.

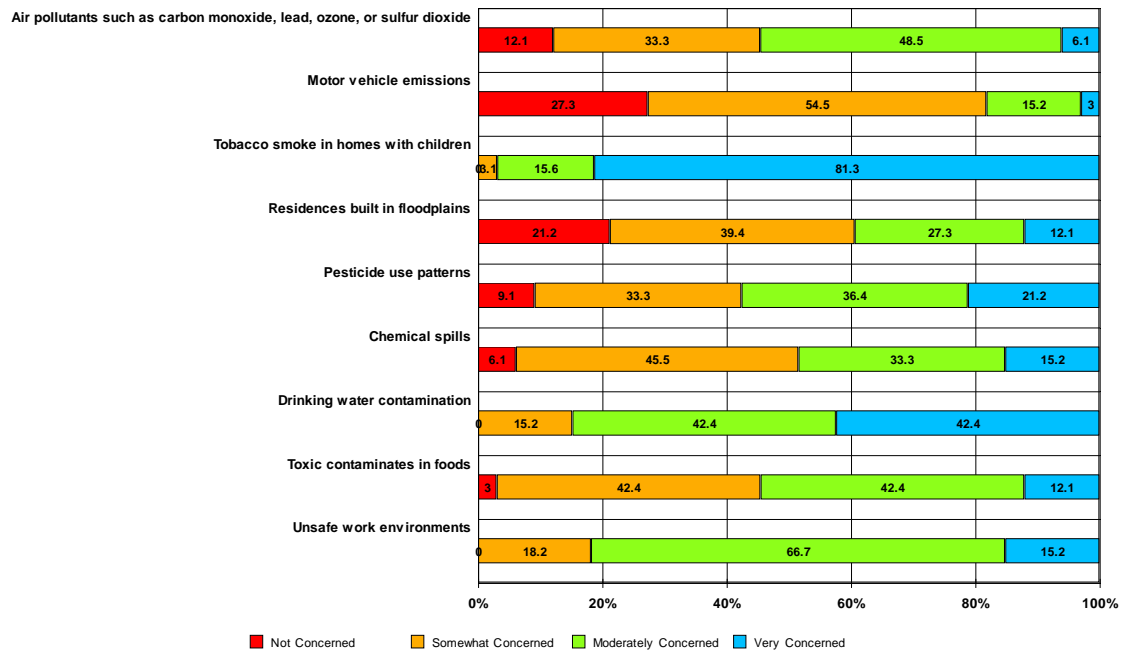
Table 12. Health Officer Use and Ease of Access for Data Sources

	Base				
		Easy to access	Moderately difficult to access	Difficult to access	I have never used this source of data
Base	657	82 12.5%	66 10.0%	10 1.5%	499 76.0%
STELLAR Database (Infant Blood Lead Screening)	33	2 6.1%	2 6.1%	- -	29 87.9%
Montana Fetal, Infant, and Child Mortality-MDPHHS	32	12 37.5%	4 12.5%	1 3.1%	15 46.9%
Vital Statistics- Birth	33	14 42.4%	7 21.2%	1 3.0%	11 33.3%
Vital Statistics- Death	33	13 39.4%	7 21.2%	1 3.0%	12 36.4%
Montana Behavioral Risk Factor Surveillance System (BRFSS)	32	11 34.4%	2 6.3%	1 3.1%	18 56.3%
Montana Central Tumor Registry	33	10 30.3%	3 9.1%	3 9.1%	17 51.5%
Montana Birth Outcomes Monitoring System	33	3 9.1%	4 12.1%	1 3.0%	25 75.8%
Cancer Screening & Tracking System (CaST)-MDPHHS	33	4 12.1%	4 12.1%	- -	25 75.8%
AIRS Database (air pollutants in Montana)	33	1 3.0%	3 9.1%	- -	29 87.9%
PCS database (water discharge permits, Environmental Protection Agency)	33	- -	2 6.1%	- -	31 93.9%
US EPA Envirofacts Database	33	1 3.0%	3 9.1%	- -	29 87.9%
U.S. Geological Survey (USGS) Water Database	33	4 12.1%	2 6.1%	1 3.0%	26 78.8%
Montana Department of Environmental Quality Environet Database	33	2 6.1%	2 6.1%	- -	29 87.9%
Safe Drinking Water Information System (SDWIS) Database	32	- -	3 9.4%	- -	29 90.6%
HazDat Database- ATSDR	33	2 6.1%	4 12.1%	- -	27 81.8%
HazMat Incident Data- US DOT	33	- -	4 12.1%	1 3.0%	28 84.8%
National Toxics Inventory Database- EPA	33	1 3.0%	4 12.1%	- -	28 84.8%
Scorecard.org- Environmental Defense	33	1 3.0%	1 3.0%	- -	31 93.9%
Toxic Release Inventory Explorer- US EPA	33	1 3.0%	1 3.0%	- -	31 93.9%
Superfund Information Systems (CERCLIS, RODS, SPIL, etc.)	33	- -	4 12.1%	- -	29 87.9%

Local priority environmental health conditions, exposures, and hazards- Health Officer Perceptions

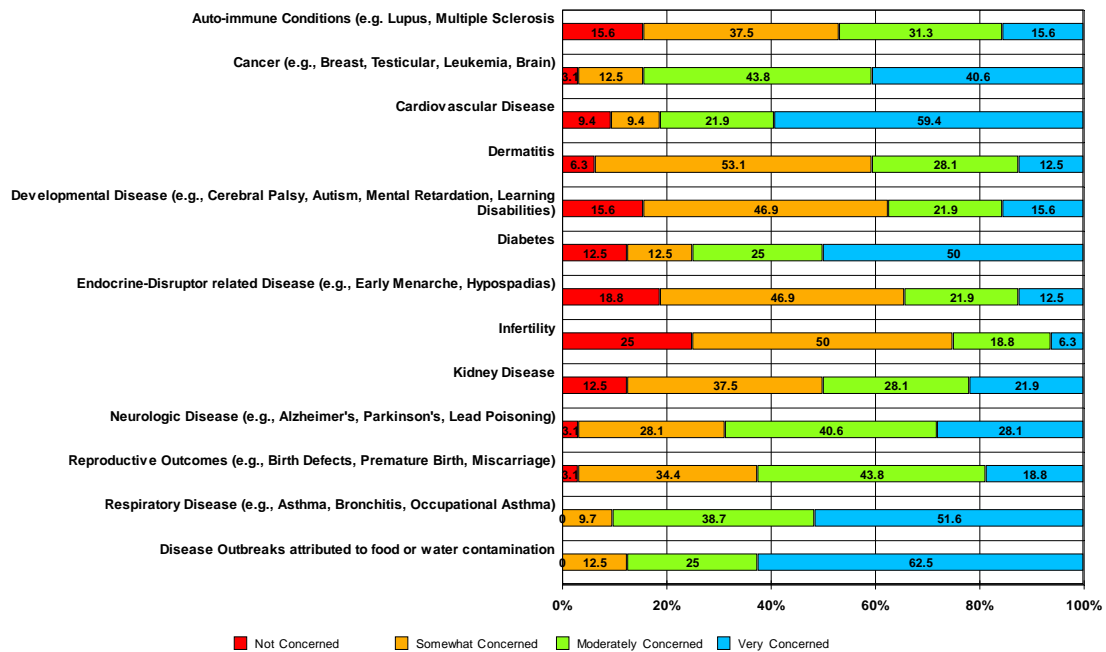
Like public health nurses, Health officers in the state of Montana appear overwhelmingly concerned about tobacco smoke in the homes of children with about 97% stating that they were either 'moderately' or 'very' concerned about this exposure (Figure 5). Other exposures that health officers expressed significant concern about include drinking water contamination (42% very concerned) and pesticide use patterns (21% very concerned).

Figure 5. Priority Environmental Health Exposures Identified by Health Officers



Exposures where health officers expressed the least concern ('not' or 'somewhat' concerned) include motor vehicle emissions (82%) and residences built in floodplains (61%).

Figure 6. Priority Environmentally Related Health Effects Identified by Health Officers



Broad categories of environmentally related health effects that health officers expressed concern ('very') about include disease outbreaks attributed to food

and water contamination (63%), cardiovascular disease (59%), respiratory disease (52%), and diabetes (50%) (Figure 6). Health officers were least concerned ('not') about infertility (25%) and endocrine-disruptor related disease (19%).

Citizen and local provider utilization of county health officers to address environmental health concerns

To address the extent to which community stakeholders utilize health officers to address environmental health issues/questions, we asked health officers to rate how often they are asked for information or assistance related to a variety of potential scenarios (see Table 13). Health officers stated that they are 'often' asked for basic information on environmental health (18%), assistance in collecting primary data in communities (12%) and assistance in utilizing environmental hazard/exposures or health effects data to take public health action (12%).

When asked which stakeholders generally request information or assistance with environmental health, 78% of the sample stated that members of the community made the request, 50% stated that they received requests from policy makers, 44% from healthcare workers inside of their organization, 37.5% from healthcare workers outside their organization and media, and less than 10% stated that they received requests from advocacy groups.

Table 13. Requests for Environmental Health Information or Assistance to Health Officers

	Base				
		Never	Rarely	Sometimes	Often
Base	329	27.1%	35.9%	28.0%	9.1%
Basic information on Environmental Health (e.g. household exposure risks)	33	6.1%	15.2%	60.6%	18.2%
Assistance in finding/locating research studies/findings	33	27.3%	57.6%	12.1%	3.0%
Assistance in interpreting research studies/results	32	37.5%	34.4%	21.9%	6.3%
Data/information on health effects potentially related to hazards (e.g., disease incidence rates, ethnic disparities & trends)	33	12.1%	42.4%	36.4%	9.1%
Data/information on environmental hazards and/or exposures (e.g., source, amount, concentration, & geographic distribution of chemicals)	33	18.2%	42.4%	30.3%	9.1%
Assistance in collecting community data (primary data)	33	42.4%	21.2%	24.2%	12.1%
Assistance in accessing existing data (secondary data)	33	42.4%	30.3%	18.2%	9.1%
Assistance in analyzing and interpreting data	33	36.4%	33.3%	24.2%	6.1%
Assistance in utilizing environmental hazards/exposures or health effects data to take public health actions (e.g., policy development, advocacy, & risk communication)	33	18.2%	36.4%	33.3%	12.1%
Assistance in conducting community-based research, epidemiological studies, or investigations	33	30.3%	45.5%	18.2%	6.1%

Results: Montana County Commissioners

Table 14. Sample Description of Montana County Commissioners (n=131)

Base	131 100.0%
Are you male or female?	
Male	100 76.3%
Female	31 23.7%
Please check your age group:	
25 - 34	2 1.5%
35 - 44	9 6.9%
45 - 54	38 29.0%
55 - 64	52 39.7%
65 - 74	27 20.6%
75 or over	3 2.3%
What is your ethnic group?	
American Indian / Alaska Native	4 3.1%
White / Non Hispanic	127 96.9%
What is your highest level of educational preparation?	
High School	66 50.4%
Associate Degree	20 15.3%
Baccalaureate Degree	30 22.9%
Masters Degree	13 9.9%
Doctoral Degree	1 0.8%
Do you currently work full time, part time or only a few hours a week in your role as a County Commissioner?	
Full time (30+ hours a week)	82 62.6%
Part time (9-29 hours a week)	36 27.5%
A few hours (less than 8 hours a week)	11 8.4%
If you are engaged in work outside of your role as County Commissioner, which of the following best describes the nature of your outside work?	
Agriculture	69 52.7%
Hospitality/Tourism Industry	2 1.5%
Public sector worker	6 4.6%
Professional	5 3.8%
Homemaker	4 3.1%

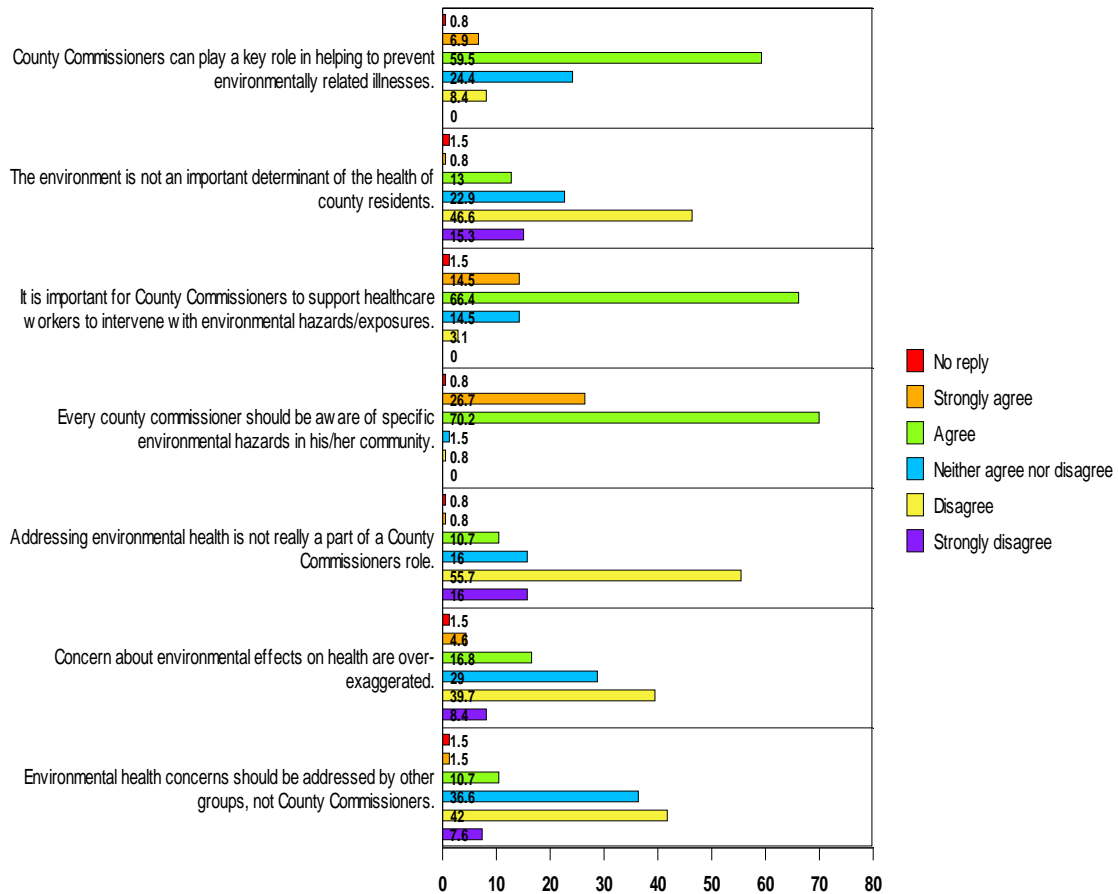
Montana County Commissioners (CC) responding to this survey were primarily male (76%), aged 45-64 (69%), and white (97%). About 50% of the sample stated that high school was their highest level of education and only 63% worked full-time as a CC. For those indicating other employment, 53% stated that agriculture best described their work.

County Commissioner Perceptions of Their Role in Addressing Environmental Issues

Because CC's in Montana direct policy at local levels, a number of items were asked to determine what CC perceptions were of their role with environmental health (Figure 7). Overall, CC's felt that they could play a key role in helping to prevent environmentally related disease (66% agree or strongly agree). Additionally, CC's felt that it is important to support healthcare workers to intervene with environmental hazards/exposures (81% agree or strongly agree) and that every CC should be aware of specific environmental hazards in his/her own community (97% agree or strongly agree).

However, CC's appeared unsure of who should address environmental health issues as 49% either agreed or were unsure of the statement "Environmental health concerns should be addressed by other groups, not County Commissioners". Some (13%) CC's stated that the environment is not an important determinant of the health of county residents and 11% said that addressing environmental health is not part of a CC's role. Additionally, about 21% of respondents agreed or strongly agreed with the statement "Concern about environmental effects on health are over-exaggerated".

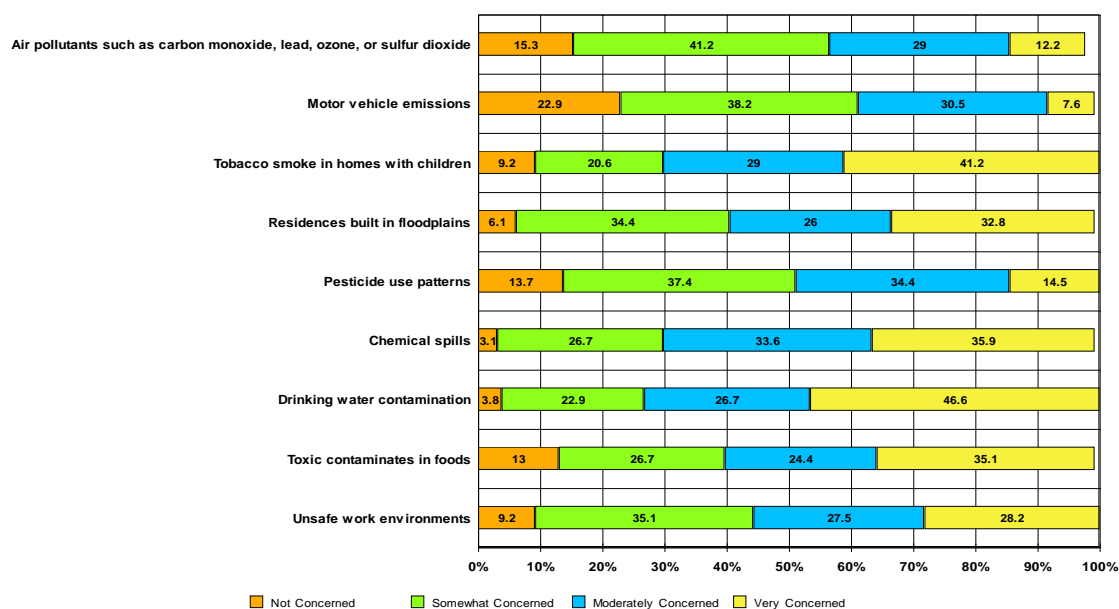
Figure 7. County Commissioners' Perceptions of Role in Environmental Risks



Local priority environmental health conditions, exposures, and hazards- County Commissioner Perceptions

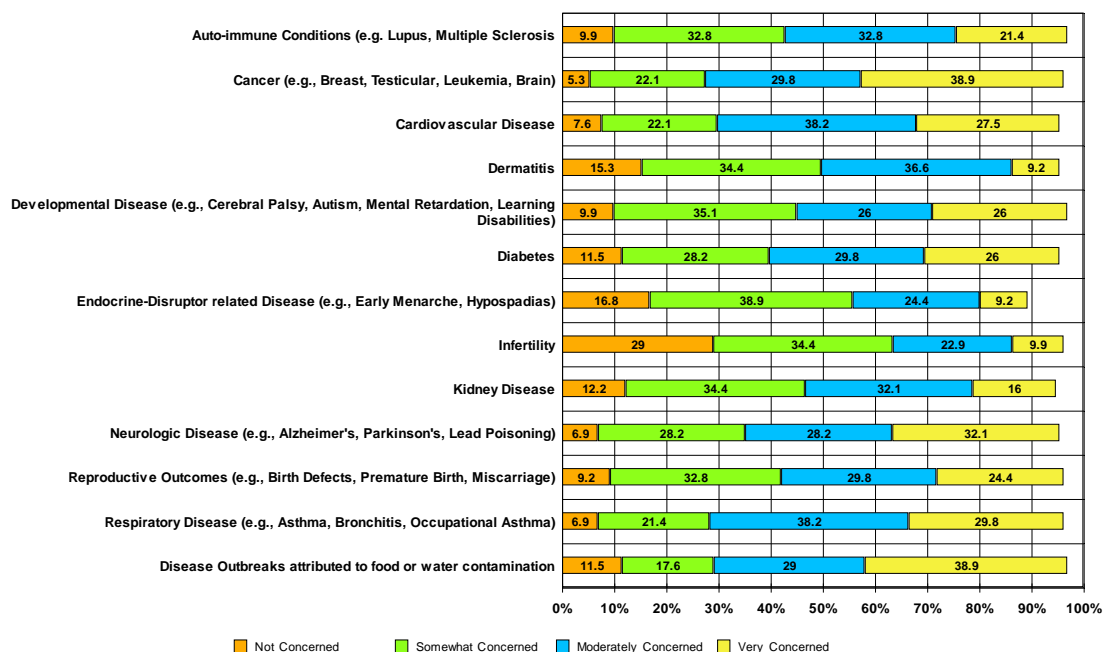
CC's in Montana appear most concerned about drinking water contamination (47% very concerned) and tobacco smoke in homes with children (42% very concerned) (Figure 8). Least concerning environmental exposures among CC's include motor vehicle emissions (61% 'not' or 'somewhat' concerned) and air pollutants such as carbon monoxide, lead, ozone, or sulfur dioxide (57% 'not' or 'somewhat' concerned).

Figure 8. Priority Environmental Health Exposures Identified by County Commissioners



Broad categories of environmentally related health effects that CC's expressed concern about are presented in Figure 9. Disease outbreaks attributed to food or water contamination and cancer concerned CC's greatest with 38.9% indicating that they were 'very concerned'. Least concerning health effects for CC's included infertility (29% not concerned) and endocrine-disruptor related disease (17% not concerned).

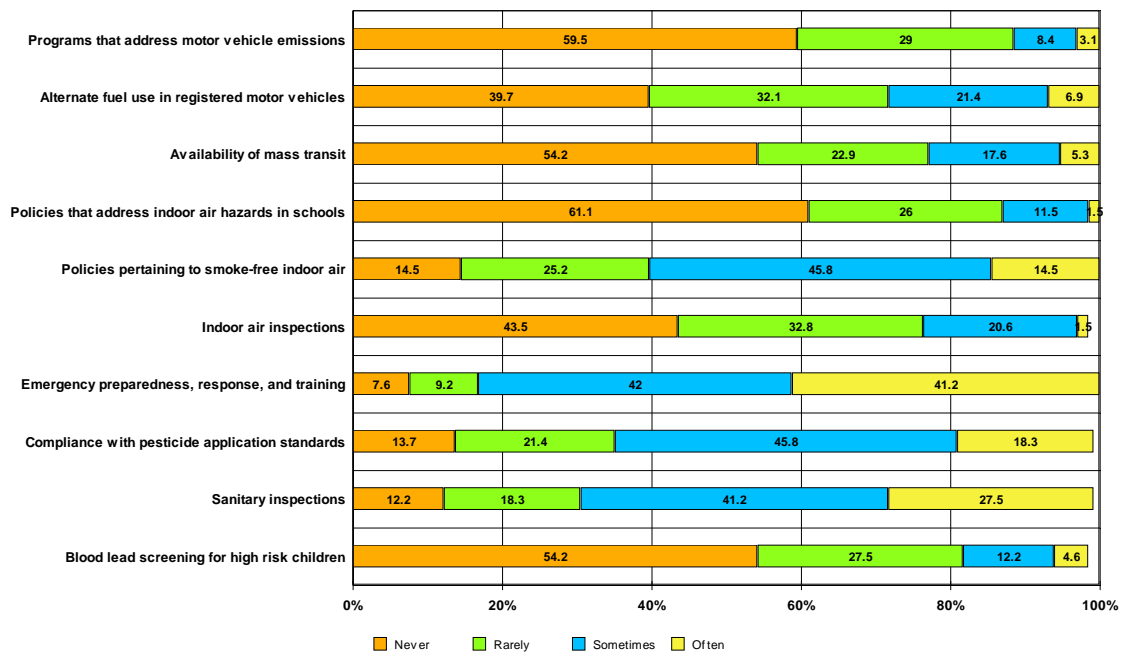
Figure 9. Priority Environmentally Related Health Effects Identified by County Commissioners



Participation in Environmental Policy or Advocacy for Environmental Issues

CC's were asked about their experience with policy making and advocacy in ten possible areas ranging from programs that address motor vehicle emissions to blood lead screening for children (Figure 10). CC's appear to have the most experience with policy making or advocacy activities addressing emergency preparedness, response, or training (41% stated often), sanitary inspections (28% stated often), and compliance with pesticide application standards (18% stated often). Least experience was indicated for policies that address indoor air hazards in schools (61% 'never'), programs that address motor vehicle emissions (60% 'never'), and blood lead screening for high risk children (54% 'never').

Figure 10. County Commissioners' Participation in Environmental Health Policy and Advocacy



Results: Montana County Extension Agents

No demographic information is available on County Extension Agents (CEA) due to poor completion of these items. Out of 76 extension agents returning questionnaires, only 33 completed demographic questions. The reason for poor completion of these items is unknown and repeated assurances were made regarding confidentiality and data reporting plans. However, as response rates for this group were 83%, the following reports likely represents this group reasonably well.

County Extension Agent Utilization of Environmental Health Information & Perceptions of Data Availability

County Extension Agents were asked a number of questions related to use and ease of access for specific data sources such as Vital Statistics for Birth and Death, the Montana Behavioral Risk Factor Surveillance System (BRFSS), and the Central Montana Tumor Registry and others. Table 15 lists results for 29 data sources related to health/environmental health and shows the extent to which CEA's in Montana use these sources of data and their perceptions of ease of use. The most commonly used sources of data among this group include the STELLAR Database (Infant Blood Lead Screening) (72% use), Montana Department of Environmental Quality Environet Database (43%), and Vital Statistics- Death (38%). The data sources where CEA's indicated the most use also received the highest ratings for ease of access. Data sources with the lowest use (8-11%) among this sample included the Toxic Release Inventory (US EPA), Scorecard.org, Superfund Information Systems, and the MT Cancer Screening and Tracking System (CaST).

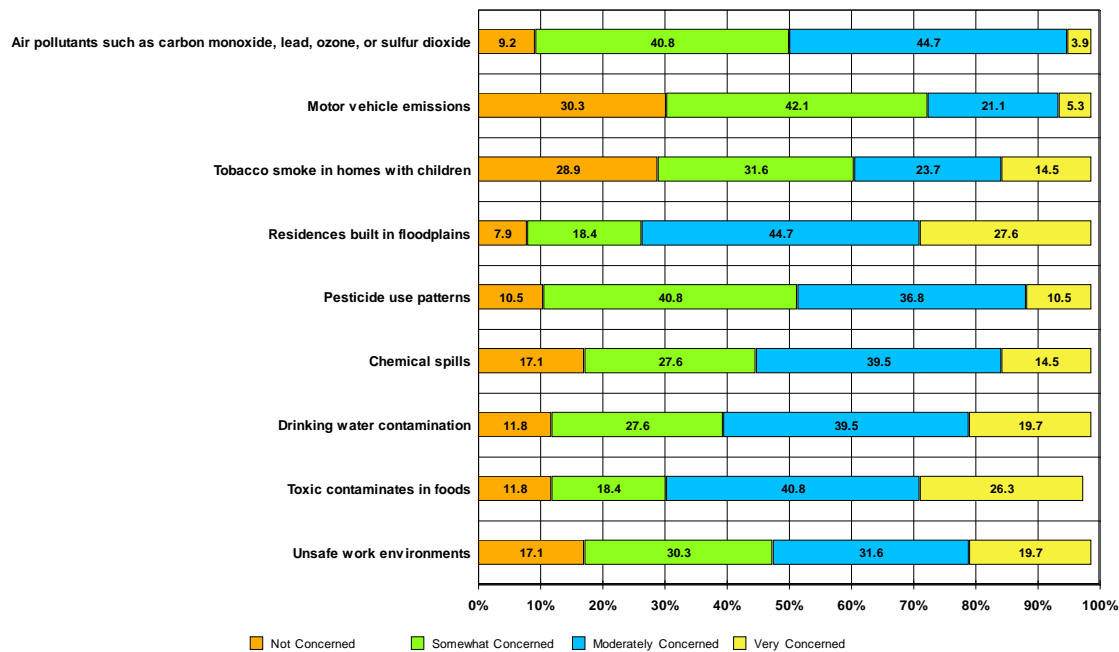
Table 15. County Extension Agents Use and Ease of Access to Data Sources

	Base	Missing				
		No reply	Easy to access	Moderately difficult to access	Difficult to access	I have never used this source of data
Base	1520	106 7.0%	121 8.0%	72 4.7%	19 1.3%	1202 79.1%
STELLAR Database (Infant Blood Lead Screening)	76	4 5.3%	44 57.9%	6 7.9%	1 1.3%	21 27.6%
Montana Fetal, Infant, and Child Mortality- MDPHHS	76	6 7.9%	2 2.6%	1 1.3%	- -	67 88.2%
Vital Statistics- Birth	76	6 7.9%	11 14.5%	4 5.3%	- -	55 72.4%
Vital Statistics- Death	76	6 7.9%	16 21.1%	5 6.6%	2 2.6%	47 61.8%
Montana Behavioral Risk Factor Surveillance System (BRFSS)	76	5 6.6%	10 13.2%	2 2.6%	3 3.9%	56 73.7%
Montana Central Tumor Registry	76	5 6.6%	- -	3 3.9%	1 1.3%	67 88.2%
Montana Birth Outcomes Monitoring System	76	6 7.9%	- -	2 2.6%	- -	68 89.5%
Cancer Screening & Tracking System (CaST)- MDPHHS	76	5 6.6%	- -	1 1.3%	- -	70 92.1%
AIRS Database (air pollutants in Montana)	76	5 6.6%	2 2.6%	- -	- -	69 90.8%
PCS database (water discharge permits, Environmental Protection Agency)	76	5 6.6%	2 2.6%	3 3.9%	1 1.3%	65 85.5%
US EPA Envirofacts Database	76	5 6.6%	3 3.9%	4 5.3%	2 2.6%	62 81.6%
U.S. Geological Survey (USGS) Water Database	76	5 6.6%	5 6.6%	11 14.5%	2 2.6%	53 69.7%
Montana Department of Environmental Quality Environet Database	76	6 7.9%	12 15.8%	11 14.5%	4 5.3%	43 56.6%
Safe Drinking Water Information System (SDWIS) Database	76	5 6.6%	8 10.5%	7 9.2%	2 2.6%	54 71.1%
HazDat Database- ATSDR	76	5 6.6%	2 2.6%	3 3.9%	- -	66 86.8%
HazMat Incident Data- US DOT	76	5 6.6%	2 2.6%	1 1.3%	- -	68 89.5%
National Toxics Inventory Database- EPA	76	6 7.9%	1 1.3%	4 5.3%	1 1.3%	64 84.2%
Scorecard.org- Environmental Defense	76	5 6.6%	- -	2 2.6%	- -	69 90.8%
Toxic Release Inventory Explorer- US EPA	76	5 6.6%	- -	1 1.3%	- -	70 92.1%
Superfund Information Systems (CERCLIS, RODS, SPIL, etc.)	76	6 7.9%	1 1.3%	1 1.3%	- -	68 89.5%

Local priority environmental health conditions, exposures, and hazards- County Extension Agent Perceptions

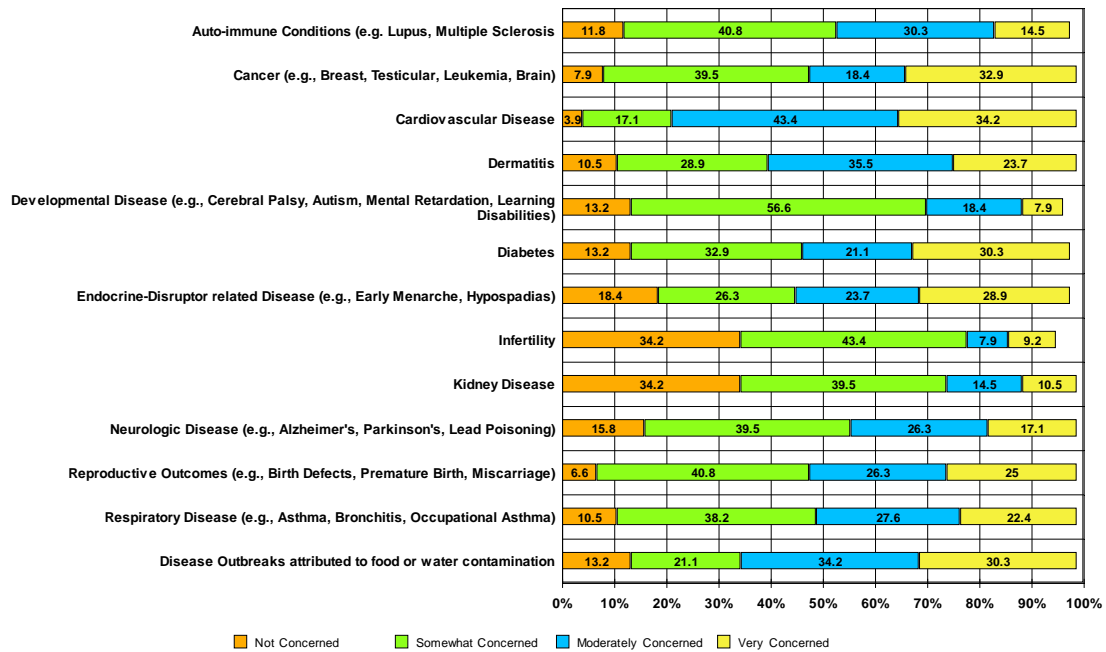
CEA's in Montana appear most concerned about residences built in floodplains (28% 'very') and toxic contaminants in foods (26% 'very') (Figure 11). Drinking water contamination and unsafe work environments both received about 20% of the sample stating that they were 'very' concerned. Of least concern to CEA's were Motor vehicle emissions (30% 'not concerned'), tobacco smoke in homes (29% 'not concerned'), chemical spills (17% 'not concerned'), and unsafe work environments (17% 'not concerned').

Figure 11. Priority Environmental Health Exposures Identified by County Extension Agents



Broad categories of environmentally related health effects that CEA's expressed concern about include cardiovascular disease (34% 'very concerned'), cancer (33% 'very concerned'), diabetes (30% 'very concerned'), and disease outbreaks attributed to food or water contamination (30% 'very concerned') (Figure 12). Health effects of least concern to CEA's include infertility (34% 'not concerned'), kidney disease (34% 'not concerned'), and endocrine-disruptor related disease (18% 'not concerned').

Figure 12. Priority Environmentally Related Health Effects Identified by County Extension Agents



Citizen and local provider utilization of county extension agents to address environmental health concerns

Like public health nurses, CEA's appear less often asked for assistance with environmental health issues (Table 16). When asked, CEA's generally provide basic information on environmental health (88% 'often' or 'sometimes'), but seldom are required to act in other areas such as assistance in collecting community data (22% 'often' or 'sometimes') or providing data or information on environmental hazards or exposures (25% 'often' or 'sometimes').

When asked which stakeholders generally request information or assistance with environmental health, 47% of the sample stated that members of the community made the request, 36% stated that they received requests from workers in their own department, 15% from workers outside of their organization and advocacy groups, and less than 10% stated that they received requests from the media and policy makers.

Table 16. Requests for Environmental Health Information or Assistance to County Extension Agents

	Base	Missing				
		No reply	Never	Rarely	Sometimes	Often
Base	760	3.3%	37.8%	29.2%	24.6%	5.1%
Basic information on Environmental Health (e.g. household exposure risks)	76	2.6%	-	9.2%	55.3%	32.9%
Assistance in finding/locating research studies/findings	76	2.6%	15.8%	31.6%	46.1%	3.9%
Assistance in interpreting research studies/results	76	2.6%	36.8%	32.9%	25.0%	2.6%
Data/information on health effects potentially related to hazards (e.g., disease incidence rates, ethnic disparities & trends)	76	2.6%	42.1%	28.9%	26.3%	-
Data/information on environmental hazards and/or exposures (e.g., source, amount, concentration, & geographic distribution of chemicals)	76	5.3%	36.8%	32.9%	19.7%	5.3%
Assistance in collecting community data (primary data)	76	2.6%	38.2%	36.8%	19.7%	2.6%
Assistance in accessing existing data (secondary data)	76	2.6%	52.6%	31.6%	11.8%	1.3%
Assistance in analyzing and interpreting data	76	2.6%	48.7%	32.9%	14.5%	1.3%
Assistance in utilizing environmental hazards/exposures or health effects data to take public health actions (e.g., policy development, advocacy, & risk communication)	76	3.9%	52.6%	25.0%	18.4%	-
Assistance in conducting community-based research, epidemiological studies, or investigations	76	5.3%	53.9%	30.3%	9.2%	1.3%

Results: Montana Non-governmental Organizations

Table 17. Sample Description of Montana Non-Governmental Organizations (n=65)

Base	65 100.0%
Missing	
No reply	3 4.6%
Please categorize your organization's jurisdiction, geographic scope/reach, service area, and/or constituency by selecting one of the following:	
National	5 7.7%
National (with a Montana focus, program office, etc.)	13 20.0%
Montana	20 30.8%
County	12 18.5%
Multiple counties, districts, or regions	11 16.9%
Please characterize the primary activities of your organization	
Environmental advocacy with focus on the ecosystem	45 69.2%
Environmental advocacy with focus on human health	20 30.8%
Health advocacy with focus on a specific disease process	2 3.1%
Health advocacy with focus on a specific population (e.g., children or elderly)	3 4.6%
Health advocacy with focus on a specific risk factor (e.g., smoking or environmental contamination)	3 4.6%
Economic advocacy	5 7.7%
Politics/Policy formulation	18 27.7%
Does your organization engage in any activities concerning American Indian reservations in the State of Montana?	
No	34 52.3%
Yes	26 40.0%

The majority of respondents from Montana non-governmental organizations (MT NGOs) represented state organizations (30.8%), and national (with a Montana focus, program, office, etc.) or county organizations responded almost equally at 20.0% and 18.5% respectively. MT NGOs responding at lowest levels were organizations serving multiple counties, districts, or regions (16.9%), and national organizations without a specific Montana focus, program or office (7.7%). About half (52.3%) of the MT NGOs serve American Indian reservations in Montana (Table 17).

Primary Activities of Montana Non-governmental Organizations

MT NGOs were asked to characterize the primary responsibilities of their organizations. Environmental advocacy with a focus on the ecosystem was the most common primary responsibility of the MT NGOs responding (69.2%). Environmental advocacy groups with a focus on human health (30.8%) and MT NGOs dealing with politics/policy formulations (27.7%) also made up a large proportion of the sample. Health advocacy groups focusing on specific disease processes, populations, or risk factors were not as widely represented at 3.1%, 4.6%, and 4.6% response respectively.

Target Audiences and Partner/Collaborators of Montana Non-governmental Organizations

MT NGOs were asked to specify their relationship with various stakeholders. Table 18 lists results for 17 possible types of partners or collaborators and the

extent to which MT NGOs view these stakeholders as part of their target audience or as a partner/collaborator. MT NGOs reported overlap in the relationship with all stakeholders. The majority of responding MT NGOs target the general public (95.1%), environmental regulators (87.8%), local public agencies (86.7%), and legislators/policy makers (85.7%) with activities. Audiences targeted the least by MT NGOs were environmental justice communities where only 35.7% of MT NGOs responding reported these communities as a target audience.

The most common partners/collaborators to MT NGOs were other NGOs at 86.0%, followed closely by environmental justice communities at 85.7%. Other common partners/collaborators were researchers/scientists (82.1%) and foundations, endowments, and other philanthropic organizations (77.5%). Stakeholders less commonly viewed as partners/collaborators included health affected populations (27.3%) and at-risk groups, such as children and the elderly (28.6%).

Table 18. Partners/Collaborators of Montana Non Governmental Organizations

	Base	Target Audience?	Partner/Collaborator?
Base	563	69.3%	55.1%
At-Risk Groups (children, elderly, etc.)	14	85.7%	28.6%
Businesses/Industry	30	60.0%	73.3%
Environmental Justice communities	28	35.7%	85.7%
Federal public agencies	49	77.6%	51.0%
Foundations, Endowments, and other philanthropic organizations	40	42.5%	77.5%
General Public	41	95.1%	39.0%
Health Affected Populations	22	81.8%	27.3%
Health Care Professionals	17	47.1%	70.6%
Legislators/Policy Makers	49	85.7%	38.8%
Local (City/County) public agencies	45	86.7%	35.6%
Media	38	78.9%	34.2%
Non-Governmental Organizations (NGOs)	43	39.5%	86.0%
Occupational Groups	12	58.3%	50.0%
Regulators, Environmental	41	87.8%	46.3%
Researchers/Scientists	39	41.0%	82.1%
Schools	21	76.2%	57.1%
State public agencies	34	79.4%	47.1%

Citizen and local provider utilization of Non-Governmental Organizations to address environmental health concerns

MT NGOs were asked to rate often they are asked for assistance or information on a range of environmental health matters (Table 19). MT NGOs are commonly (67.4%) asked for assistance in using data to take action in regards to policy development, advocacy, and risk assessment. Many MT NGOs (63.6%) also reported being asked for information about environmental hazards and/or exposures. MT NGOs are often asked about a variety of other matters such as

assistance in locating research studies (59.5%), and interpreting research results (57.5%). Few MT NGOs are asked for information of Environmental Health in languages other than English, with 93.8% of the MT NGOs reporting that they are “rarely” asked for this type of information.

Table 19. Requests for Environmental Health Information or Assistance to Montana Non-Governmental Organizations

	Base				
		Yes	Most of the Time	Sometimes	Rarely
Base	238	54.2%	26.9%	34.9%	29.4%
Basic information on Environmental Health (e.g. household exposure risks)	34	55.9%	32.4%	14.7%	47.1%
Information on Environmental Health in languages other than English	16	-	6.3%	-	93.8%
Assistance in finding/locating research studies/findings	42	59.5%	26.2%	42.9%	19.0%
Assistance in interpreting research studies/results	40	57.5%	30.0%	50.0%	15.0%
Data/information on health effects potentially related to hazards (e.g., disease incidence rates, ethnic disparities & trends)	27	37.0%	29.6%	29.6%	40.7%
Data/information on environmental hazards and/or exposures (e.g., source, amount, concentration, & geographic distribution of chemicals)	33	63.6%	15.2%	45.5%	24.2%
Assistance in using data to take action (e.g., policy development, advocacy, risk assessment)	46	67.4%	34.8%	37.0%	13.0%

Priority Environmental Health Areas for Montana Non-Governmental Organizations

Public education, community outreach, or advocacy were priority activities for almost all MT NGOs surveyed (98.4%). Top priorities also include building partnerships or coalitions (90.0%) and public policy development (88.2%). Areas considered not a priority by many MT NGOs include GIS mapping of data and risk communication (65.9% of MT NGOs surveyed responded “not a priority” for both of these areas).

Table 20. Priority Environmental Health Areas for Montana Non-Governmental Organizations

	Base		
		Priority	Not a Priority
Base	416	61.5%	38.5%
Public education, community outreach, or advocacy	61	98.4%	1.6%
Building partnerships or coalitions	50	90.0%	10.0%
Public policy development	51	88.2%	11.8%
Environmental Justice (addressing disparities in environmental exposures by certain populations)	40	42.5%	57.5%
Risk communication	41	34.1%	65.9%
Accessing existing data on environmental hazards or health effects	45	46.7%	53.3%
GIS mapping of data	41	34.1%	65.9%
Collecting data on environmental hazards or health effects	44	38.6%	61.4%
Analyzing or interpreting environmental or health data	43	53.5%	46.5%

Local Priority Environmental Health Conditions, Exposures, and Hazards- Montana Non-Governmental Organizations Perceptions

MT NGOs are most concerned with drinking water contamination, with 66% reporting this as a priority (Figure 13). Other significant priorities of MT NGOs include hazardous and solid wastes (48%), heavy metals (46.9%), and air pollutants such as carbon monoxide, lead, ozone, or sulfur dioxide (46.8%). Figure 13 outlines the results.

Figure 13. Priority Environmental Health Exposures Identified by Non-Governmental Organizations

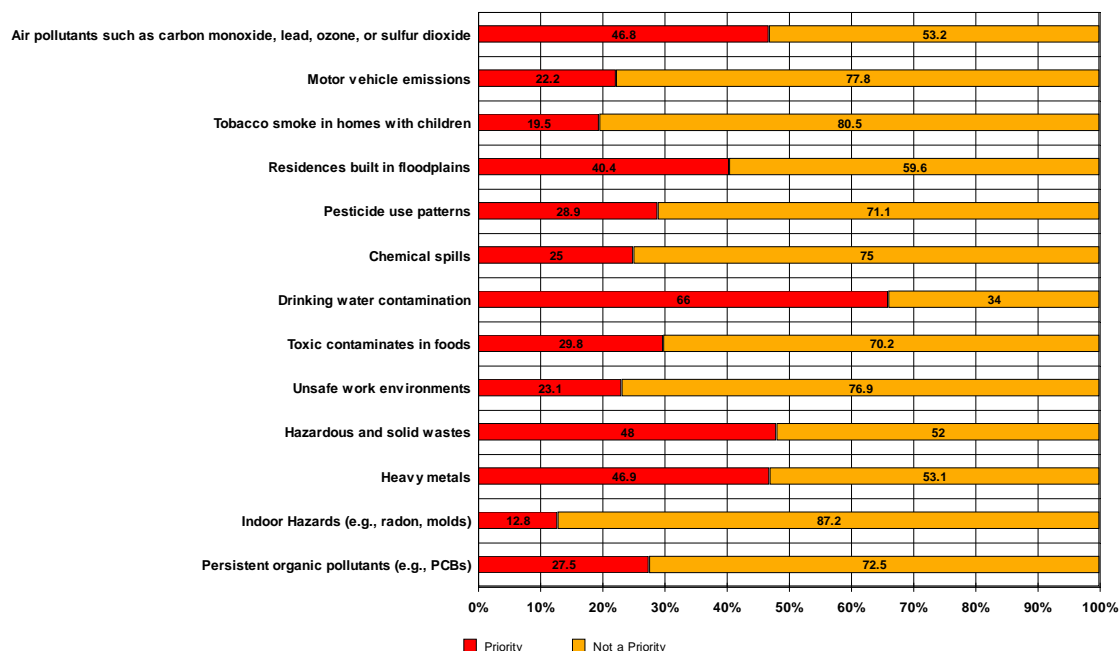
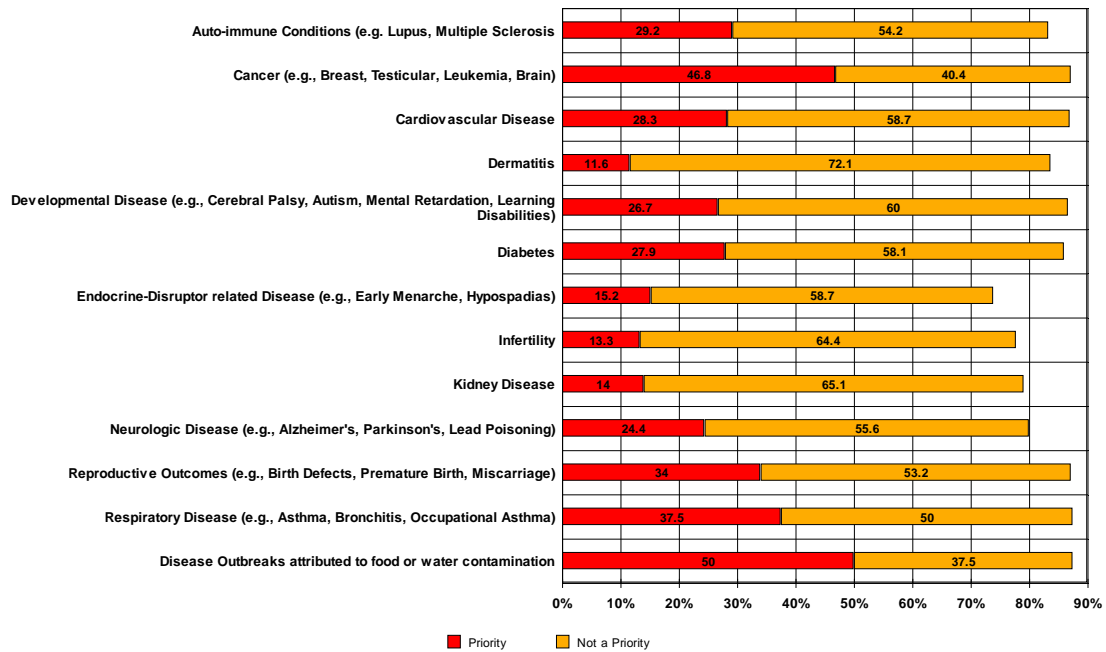


Figure 14 shows general categories of health effects that MT NGOs expressed concern about. Like sanitarians, MT NGOs showed greatest concern with disease outbreaks attributed to food or water contamination, with 50% of MT NGOs reporting this type of outbreak as a priority. Cancer outbreaks are also a major priority for MT NGOs where 48.8% of respondents listing this as a priority. Low priority health effects include dermatitis, with 72.1 percent of MT NGOs reporting dermatitis as “not a priority”, kidney disease (65.1% not a priority), and infertility (64.4% not a priority).

Figure 14. Priority Environmental Health Effects Identified by Non-Governmental Organizations



*NGO's were also asked open-ended questions about what types of data they would like to see made available to the public and what their organization would be able to do with access to that data. Responses from those organizations responding to these items are included in Appendix A. Also, NGO's were asked in they would like to be involved with future activities of Environmental Public Health Tracking in Montana and those electing to do so are included in Appendix B.

Results: Combined Results from Public Health Nurses, Sanitarians, and Health Officers

Base	284 100.0%
Are you male or female?	
Male	95 33.5%
Female	189 66.5%
Please check your age group:	
20 - 24	40 14.1%
25 - 34	46 16.2%
35 - 44	46 16.2%
45 - 54	98 34.5%
55 - 64	49 17.3%
65 - 74	4 1.4%
75 or over	1 0.4%
What is your ethnic group?	
American Indian / Alaska Native	14 4.9%
Black / Non Hispanic	5 1.8%
Asian / Pacific Islander	2 0.7%
Hispanic	15 5.3%
White / Non Hispanic	245 86.3%
Do you currently work on any American Indian reservations in the State of Montana?	
No	236 83.1%
Yes	43 15.1%

Table 21. Sample Description of Public Employees Combined Results (n=284)

The results from the public health nurses, sanitarians and health officers were combined to give an overall impression of public health employees surveyed in the state. These combined results revealed that the public health employees were mostly white (86.3%), females (66.5%), aged 45-54 (34.5%). About 15% of the respondents stated that they do at least some work on American Indian Reservations in the State of Montana.

Combined Results of Public Health Employee Utilization of Environmental Health Information & Perceptions of Data Availability

Table 22 shows responses from public health nurses, sanitarians, and health officers concerning their use of various data sources which provide environmental exposure and epidemiologic data. The Montana Department of Environmental Quality Environet Database and the U.S. Geological Survey Water database were most often used by the combined sample with 26% and 23% use respectively. Most of the public health employees surveyed reported that they have never used the Toxic Release Inventory Explorer from the U.S. Environmental Protection Agency (93.8%), Scorecard.org from Environmental Defense (90.9%), or the Superfund Information Systems (CERCLIS, RODS, SPIL, etc.) (89%).

Table 22. Combined Results from Public Health Nurses, Sanitarians, and Health Officers Use and Ease of Access of Data Sources

	Base				
		Easy to access	Moderately difficult to access	Difficult to access	I have never used this source of data
Base	5484	683 12.5%	377 6.9%	116 2.1%	4308 78.6%
PCS database (water discharge permits, Environmental Protection Agency)	273	15 5.5%	22 8.1%	5 1.8%	231 84.6%
US EPA Envirofacts Database	273	19 7.0%	18 6.6%	3 1.1%	233 85.3%
U.S. Geological Survey (USGS) Water Database	273	40 14.7%	17 6.2%	6 2.2%	210 76.9%
Montana Department of Environmental Quality Environet Database	274	45 16.4%	21 7.7%	5 1.8%	203 74.1%
Safe Drinking Water Information System (SDWIS) Database	274	34 12.4%	25 9.1%	3 1.1%	212 77.4%
HazDat Database-ATSDR	276	28 10.1%	25 9.1%	7 2.5%	216 78.3%
HazMat Incident Data-US DOT	275	17 6.2%	15 5.5%	7 2.5%	236 85.8%
National Toxics Inventory Database-EPA	274	14 5.1%	13 4.7%	8 2.9%	239 87.2%
Scorecard.org-Environmental Defense	274	10 3.6%	11 4.0%	4 1.5%	249 90.9%
Toxic Release Inventory Explorer-US EPA	274	7 2.6%	7 2.6%	3 1.1%	257 93.8%
Superfund Information Systems (CERCLIS, RODS, SPIL, etc.)	274	10 3.6%	15 5.5%	6 2.2%	243 88.7%

Local Priority Environmental Health Conditions, Exposures, and Hazards-Combined Public Health Employee Perceptions

Public health employees were most concerned (60.8% ‘very concerned’) with children’s exposure to tobacco smoke in homes, while also significantly concerned with drinking water contamination (50.2%) and toxic contaminants in foods (47.3%) (Figure 15).

Consistent with concerns expressed for drinking water and food contamination, 54.9% viewed disease outbreaks attributed to food or water contamination as a very concerning health effect (Figure 16). Other noteworthy concerns were cancer (46.5%) and respiratory disease (43.5%). Public health employees were least concerned (“not concerned” or “somewhat concerned”) with infertility (58.4%), kidney disease (51.8%) and endocrine disruptor related diseases (50.5%).

Figure 15. Combined Priority Environmental Health Exposures Identified by Public Health Employees

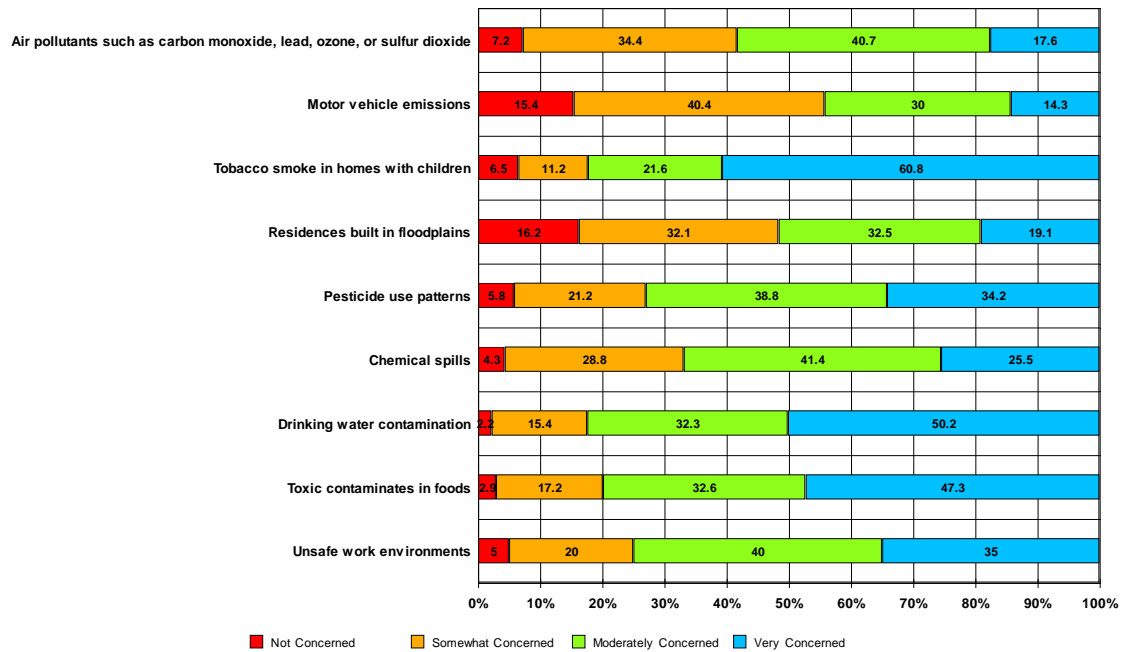
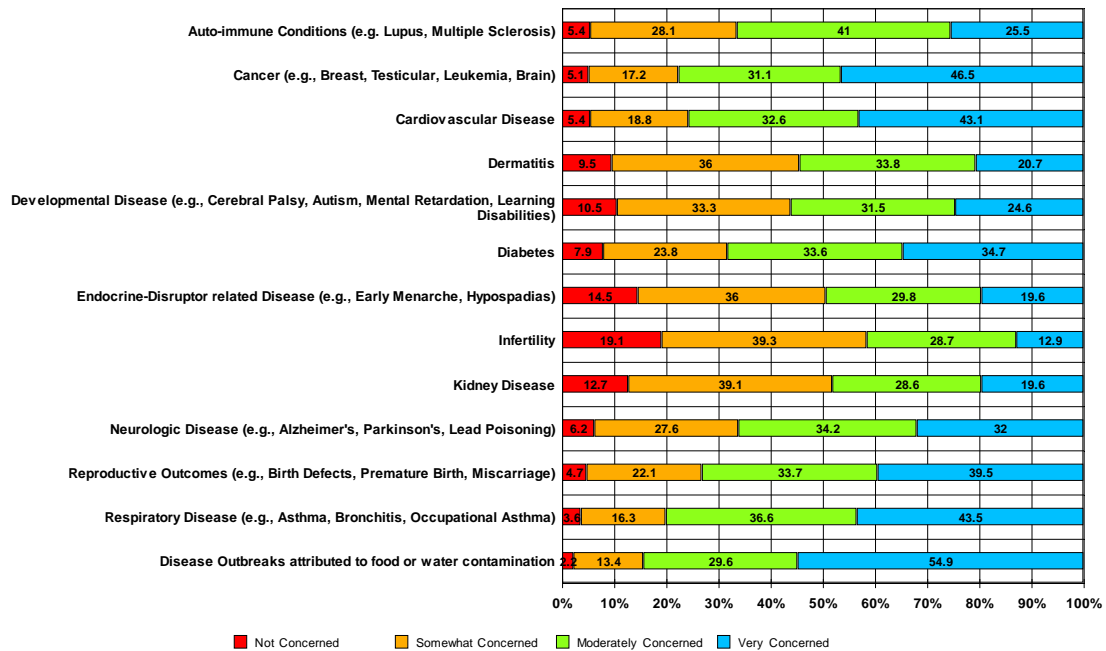


Figure 16. Combined Priority Environmentally Related Health Effects Identified by Public Health Employees



Citizen and local provider utilization of public health employees to address environmental health concerns

The utilization of public health nurses, sanitarians, and health officers to address environmental health issues/questions is expressed in Table 23. Basic information on environmental health, such as household exposure risks, was most commonly solicited from public health workers with 81.7% reported being asked “sometimes” or “often” for this type of information. Public health workers were frequently (‘sometimes’ or ‘often’) asked for data on health effects potentially related to hazards (54%) and data on exposures (43.3%). Public health workers were asked least often for assistance in analyzing and interpreting data (76.5% reporting “never” or “rarely”).

Table 23. Combined Results for Environmental Health Information or Assistance to Public Health Employees

	Base	Never	Rarely	Sometimes	Often
Base	2666	24.3%	33.9%	31.7%	10.1%
Data/information on environmental hazards and/or exposures (e.g., source, amount, concentration, & geographic distribution of chemicals)	263	21.3%	35.4%	34.6%	8.7%
Assistance in collecting community data (primary data)	263	24.3%	35.4%	31.2%	9.1%
Data/information on health effects potentially related to hazards (e.g., disease incidence rates, ethnic disparities & trends)	263	12.2%	33.8%	44.1%	9.9%
Assistance in accessing existing data (secondary data)	265	30.2%	39.6%	24.2%	6.0%
Basic information on Environmental Health (e.g. household exposure risks)	278	3.6%	14.7%	51.8%	29.9%
Assistance in finding/locating research studies/findings	280	23.9%	40.7%	25.0%	10.4%
Assistance in interpreting research studies/results	262	36.6%	37.0%	22.5%	3.8%
Assistance in analyzing and interpreting data	264	41.3%	35.2%	17.4%	6.1%
Assistance in utilizing environmental hazards/exposures or health effects data to take public health actions (e.g., policy development, advocacy, & risk communication)	264	25.0%	32.6%	34.1%	8.3%
Assistance in conducting community-based research, epidemiological studies, or investigations	264	25.8%	34.8%	31.8%	7.6%

Results: Public Health Workers on American Indian Reservations

Public Health Workers on American Indian Reservations Utilization of Environmental Health Information & Perceptions of Data Availability

Public health workers who serve American Indian Reservations were asked to rate the extent to which they utilize environmental exposure and health related data sources (Table 24). The Montana Fetal, Infant, and Child Mortality database from Montana Department of Health and Human Services was and Vital Statistics for Birth and Death were used most often with over 65% of all respondents indicating at least some use. Other data sources used at moderate levels include the Montana Behavioral Risk Factor Surveillance System (MT BRFSS) (39%), the Montana Birth Outcomes Monitoring System (34%) and the HazDat Database (ATSDR)(32%). Alternatively, significant numbers of public health workers on American Indian Reservations reported never using the Toxic Release Inventory Explorer from the U.S. EPA (90.2%), Scorecard.org from the Environmental Defense (90%), or the Superfund Information Systems (CERCLIS, RODS, SPIL, etc.)(88%).

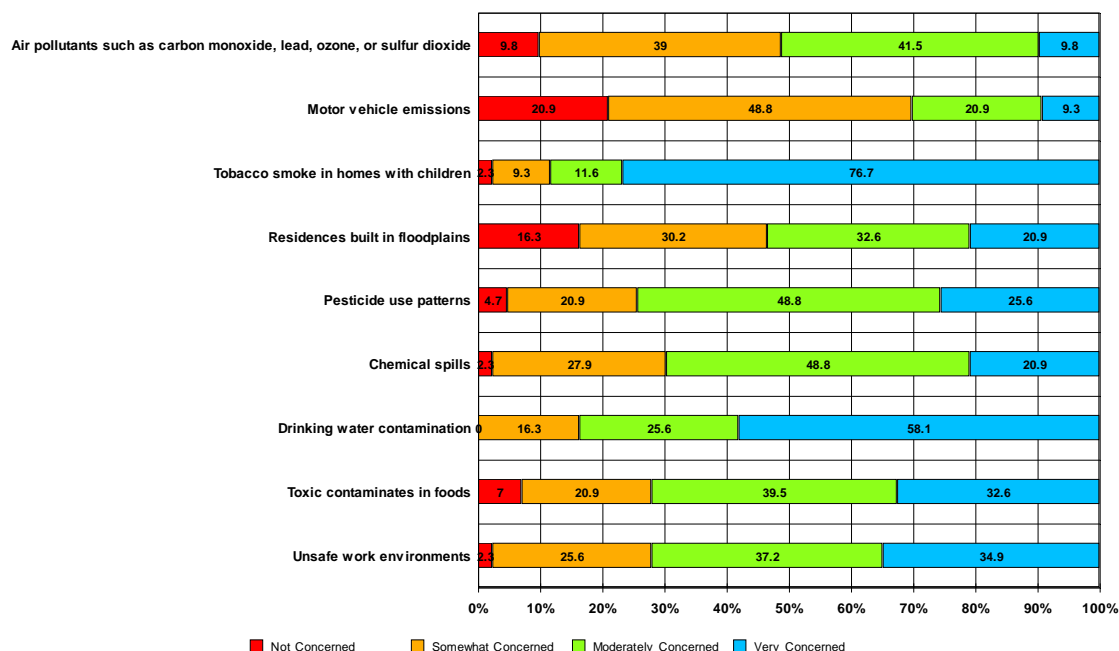
Table 24. Public Health Workers on American Indian Reservations Use and Ease of Access for Data Sources

	Base				
		Easy to access	Moderately difficult to access	Difficult to access	I have never used this source of data
Base	815	131 16.1%	70 8.6%	37 4.5%	577 70.8%
STELLAR Database (Infant Blood Lead Screening)	40	5 12.5%	3 7.5%	- -	32 80.0%
Montana Fetal, Infant, and Child Mortality- MDPHHS	41	25 61.0%	2 4.9%	1 2.4%	13 31.7%
Vital Statistics- Birth	41	22 53.7%	2 4.9%	3 7.3%	14 34.1%
Vital Statistics- Death	41	22 53.7%	2 4.9%	3 7.3%	14 34.1%
Montana Behavioral Risk Factor Surveillance System (BRFSS)	41	9 22.0%	6 14.6%	1 2.4%	25 61.0%
Montana Central Tumor Registry	41	4 9.8%	5 12.2%	2 4.9%	30 73.2%
Montana Birth Outcomes Monitoring System	41	7 17.1%	4 9.8%	3 7.3%	27 65.9%
Cancer Screening & Tracking System (CaST)- MDPHHS	41	6 14.6%	4 9.8%	1 2.4%	30 73.2%
AIRS Database (air pollutants in Montana)	41	2 4.9%	3 7.3%	2 4.9%	34 82.9%
PCS database (water discharge permits, Environmental Protection Agency)	40	1 2.5%	3 7.5%	2 5.0%	34 85.0%
US EPA Envirofacts Database	40	2 5.0%	5 12.5%	1 2.5%	32 80.0%
U.S. Geological Survey (USGS) Water Database	40	3 7.5%	4 10.0%	2 5.0%	31 77.5%
Montana Department of Environmental Quality Environet Database	41	5 12.2%	4 9.8%	2 4.9%	30 73.2%
Safe Drinking Water Information System (SDWIS) Database	41	5 12.2%	4 9.8%	2 4.9%	30 73.2%
HazDat Database- ATSDR	41	5 12.2%	4 9.8%	4 9.8%	28 68.3%
HazMat Incident Data- US DOT	41	4 9.8%	4 9.8%	3 7.3%	30 73.2%
National Toxics Inventory Database- EPA	41	2 4.9%	3 7.3%	2 4.9%	34 82.9%
Scorecard.org- Environmental Defense	40	1 2.5%	2 5.0%	1 2.5%	36 90.0%
Toxic Release Inventory Explorer- US EPA	41	- -	3 7.3%	1 2.4%	37 90.2%
Superfund Information Systems (CERCLIS, RODS, SPIL, etc.)	41	1 2.4%	3 7.3%	1 2.4%	36 87.8%

Local Priority Environmental Health Conditions, Exposures, and Hazard-Public Health Workers on American Indian Reservations

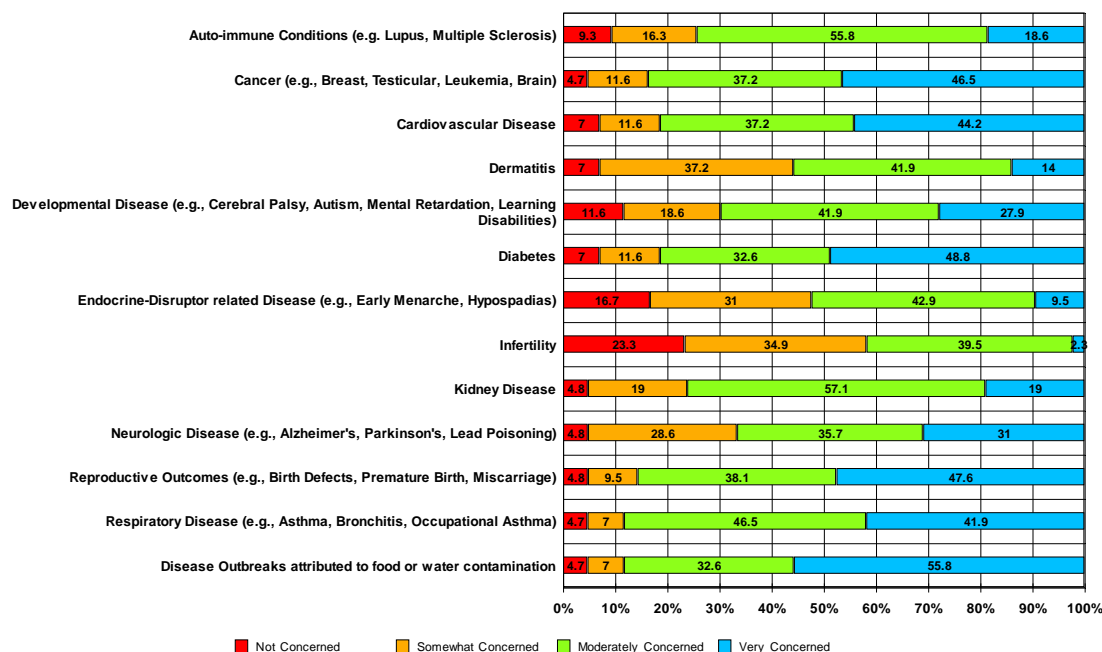
Public health workers on American Indian reservations were asked to rate their level of concern with a variety of environmental health exposures (Figure 17). Most of these public health workers expressed concern with tobacco smoke in homes with children (88.3% ‘moderately’ or ‘very’ concerned) and drinking water contamination (83.7%). Public health workers on American Indian reservations were less concerned with motor vehicle emissions (69.7% not or somewhat concerned) and air pollutants such as carbon monoxide, lead, ozone, or sulfur dioxide (48.8% not or somewhat concerned).

Figure 17. Priority Environmental Health Exposures Identified by Public Health Workers on American Indian Reservations



Priority environmentally related health effects identified by public health workers on American Indian reservations include disease outbreaks attributed to food or water contamination (56% very concerned) and diabetes (49%) (Figure 18). Other health effects where over 40% of the sample stated that they were ‘very concerned’ include reproductive outcomes (48%), cancer (47%), cardiovascular disease (44%), and respiratory disease (42%).

Figure 18. Priority Environmentally Related Health Effects Identified by Public Health Workers on American Indian Reservations



Citizen and local provider utilization of public health workers on American Indian Reservations to address environmental health concerns

Public health workers on American Indian reservations were asked to gage how often they are asked for certain information or assistance on various environmental health topics summarized in Table 25. Public health workers (88.4%) reported being “sometimes” or “often” asked for basic information on environmental health and 79.1% reported being “sometimes” or “often” asked for data on health effects potentially related to hazards. Many (74%) of these workers were “rarely” or “never” asked for assistance in analyzing and interpreting data, interpreting research studies/results (72%) or finding research studies (69%).

Table 25. Requests for Environmental Health Information or Assistance to Public Health Workers on American Indian Reservations

	Base	Never	Rarely	Sometimes	Often
Base	430	15.3%	34.2%	39.8%	10.7%
Assistance in collecting community data (primary data)	43	16.3%	27.9%	48.8%	7.0%
Data/information on environmental hazards and/or exposures (e.g., source, amount, concentration, & geographic distributio...	43	11.6%	30.2%	51.2%	7.0%
Data/information on health effects potentially related to hazards (e.g., disease incidence rates, ethnic disparities & trends)	43	2.3%	18.6%	65.1%	14.0%
Assistance in accessing existing data (secondary data)	43	18.6%	44.2%	25.6%	11.6%
Basic information on Environmental Health (e.g. household exposure risks)	43	-	11.6%	55.8%	32.6%
Assistance in finding/locating research studies/findings	43	16.3%	53.5%	25.6%	4.7%
Assistance in interpreting research studies/results	43	23.3%	48.8%	25.6%	2.3%
Assistance in analyzing and interpreting data	43	30.2%	44.2%	18.6%	7.0%
Assistance in utilizing environmental hazards/exposures or health effects data to take public health actions (e.g., policy develo...	43	16.3%	30.2%	41.9%	11.6%
Assistance in conducting community-based research, epidemiological studies, or investigations	43	18.6%	32.6%	39.5%	9.3%

References

1. America's Environmental Health Gap: Why the Country Needs a Nationwide Health Tracking Network. Environmental Health Tracking Project Team, Johns Hopkins School of Hygiene and Public Health. Sponsored by The Pew Environmental Health Commission., 2000.
2. Van Dongen CJ: Environmental health and nursing practice: a survey of registered nurses. Appl Nurs Res 2002; 15(2): 67-73.

Appendices

Appendix A: Non-governmental Organizations Requests for Access to Data

Organization Response Number	What types of data would you like to see made available to the public?	What would your organization be able to do if you had access to that data?
1	"Water quality"	"Distribute info to the public"
3	"Not sure"	
5	"the data we try to expose the public to is mainly health concerns related to food & water and the good, bad and ugly of business practices. not to say you do not have this information available."	"we use our data to inform the public, educate our staff, and influence change"
15	"Kinds of effects from industrial development for oil and gas in wild undeveloped country. eg. what's happened in Alberta Rockies w/ habitat fragmentation, roads, water pollution, erosion, other impacts."	"Use it to convince the public that the best use of public lands in Montana's"
16	"The public does not lack access to data-it lacks willingness to make hard choices based on data"	
19	"looks good"	"inform the public"
20	"Effect of signage on drivers-# of residents at sites with and without signage, increased level of anxiety for drivers who commute along heavily signage ares vs low signage"	"informs the public and government decision makers with goal of reducing signage clutter"
21	"most of the data we need, if it is gathered, is available."	
23	"environmental tobacco data"	"lobby for clean indoor air public policy for all Montanans"
24	"specific area data"	"publicize it"
25	"Data on the relationship of obesity to increased motorized recreational use. Also effects from breathing fumes from ATVs, snowmobiling, jet skis on humans health and effects of noise on hearing"	"Try to educate the public and reinforce the value of quiet, non-polluting recreation and how it benefits human health as well as wildlife habitat 2) Try to influence public land managers to use alternative methods of controlling weeds."
28	"More on noise and light pollution"	"help summarize and disseminate it to the public and policy makers"
29	"more data on extinctions, loss of biodiversity, climate change, overpopulation"	"help educate the public"
31	"1) citations/violations and results enforcement data of all companies, person, agencies (all levels) effected by any/all fed/state/local/ govt agencies statewide, multi years 2)state/fed govt activate field eval/moni"	"1) provide our field monitoring of possible and or known illegal actions to state/fed/local enforcement agencies"

(Non-governmental Organizations Requests for Access to Data Continued)

32	"Data that is easily understood, fair and accessible and that educates the public on how to get involved with taking care of their environment and personal health. Empower the public!"	"Better educate our students on the state of our/their environment. Teach them how to think critically about these situations. Encourage them to take responsibility for their environmental/social health."
40	"better, more complete information on toxic releases."	"track potential risks to the public and work with government and industry to reduce these emissions"
41	"low dose and mixture toxicology, especially during development more disclosure of conflicts of interests, and of data disclosing/non-disclosure"	"Publicize it to public regulation and the new media"
43	"While we can easily access state water quality data, its accuracy is in question. Better, more complete data would serve the public's interest."	"help the public more accurately determine if their water and air is safe and if not. the appropriate public policy or best management practices to solve them."
44	"water pollution data stream flow data air pollution data toxic substances potential air pollution data"	"publish data in our newspaper participate in agency dialog energize river watch volunteers"
45	"water supply for residential and agriculture"	
46	"Place based data-If you were looking at a house to buy you'd look for available info on potential problems. Check on Bitterroot-retrieve info on existing and potential environmental problems"	"We would target activities to problem areas."
48	"huge data banks of grassroots opinions and ideas"	"The foundation of all our work and concerns"
49	"Research into ""cluster"" communities where MS is high."	"Answer questions more adequately."
53	"data related to global warming, pollution, habitat loss for wildlife, all changes to the earth"	"don't know"
55	"easier public access to databases"	
59	"nitrate levels in ground water and incidence of water born disease"	"We could influence county and state government to better regulate on-site septic systems and new development. I think Plan Helena responded to this survey earlier via the internet by Julie Burk. She said she thought it did not apply to us."
64	"chronic diseases including asthma"	"-turn on the public health light bulb -attention, awareness and public health dollars are desperately needed -state agencies are not interested in applying for federal funding to address a problem that costs over 8 billion \$/year"
65	"Farm chemical use by county-overlapped with cancer/lymphoma data-overlapped with drinking water quality"	"Help farmers see impacts of practices on communities around them and hopefully reduce overall chemical use or change the types of chemicals used."

Appendix B: Non-governmental Organizations Interested in Continued Participation with MT EPHT

Montana Wilderness Association
3318 Third Ave. N, Suite 203
Billings, MT 59102

Community Food Co-op
908 W Main
Bozeman, MT 59715

Friends of the Rocky Mountain Forest
PO Box 763
Choteau, MT 59422

Greater Yellowstone Coalition
PO Box 1874
Bozeman, MT 59771

Concerned Citizens of Pony
PO Box 253
Pony, MT 59747

Swan View Coalition
3165 Foothill Rd
Kalispell, MT 59901

Big Wild Advocates
222 Tom Miner Creek Rd
Emigrant, MT 59027

Cold Mountain Cold Rivers
PO Box 7941
Missoula, MT 59807

Resource Media
PO Box 1215
Kalispell, MT 59901

Montana Waterwatch
Box 204
Darby, MT 59829

CFRTAC
PO Box 9086
Missoula, MT 59807

Carbon County Resource Council
PO Box 1887
Red Lodge, MT 59068

Northern Plains Resource Council
2401 Montana Ave #200
Billings, MT 59101

World Wide Film Expeditions
243 Mount Ave
Missoula, MT 59801

National MS Society
1629 Ave D, 2-C
Billings, MT 59102

Montanans Against Toxic Burning
Bozeman, MT 59715

Upper Missouri Audobon
2101 4 Ave. S.
Great Falls, MT 59405

American Lung Association of the N. Rockies
325 Helena Ave
Helena, MT 59601

